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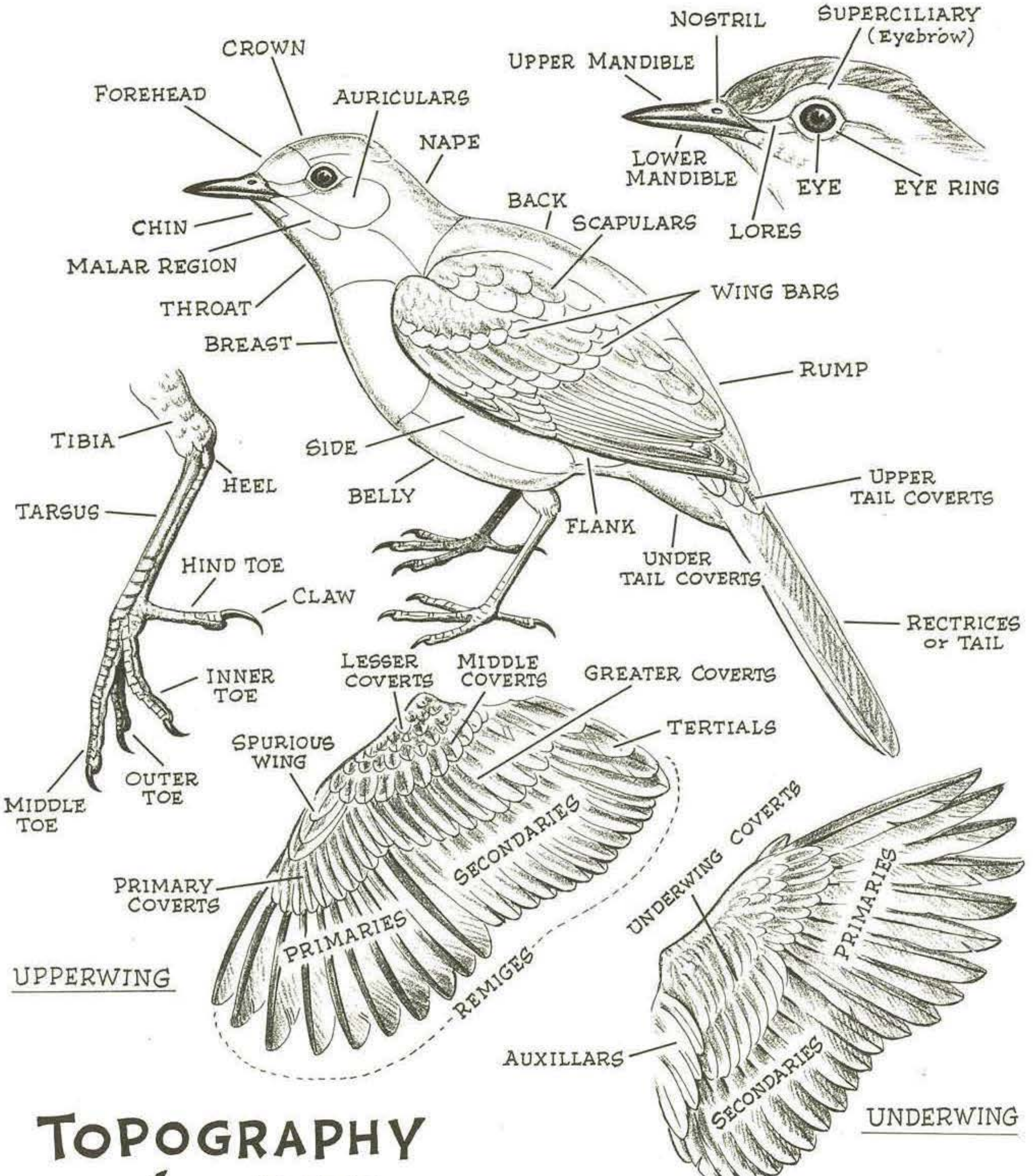

TOPOGRAPHY
of a BIRD

FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

Florida WILDLIFE

VOL. 26, NO. 7

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★

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The Cover

Almost continuous with chattering in the crisp autumn air, the gray squirrel enjoys fall-season feasting on plentiful dogwood berries.

From A Painting By Wallace Hughes

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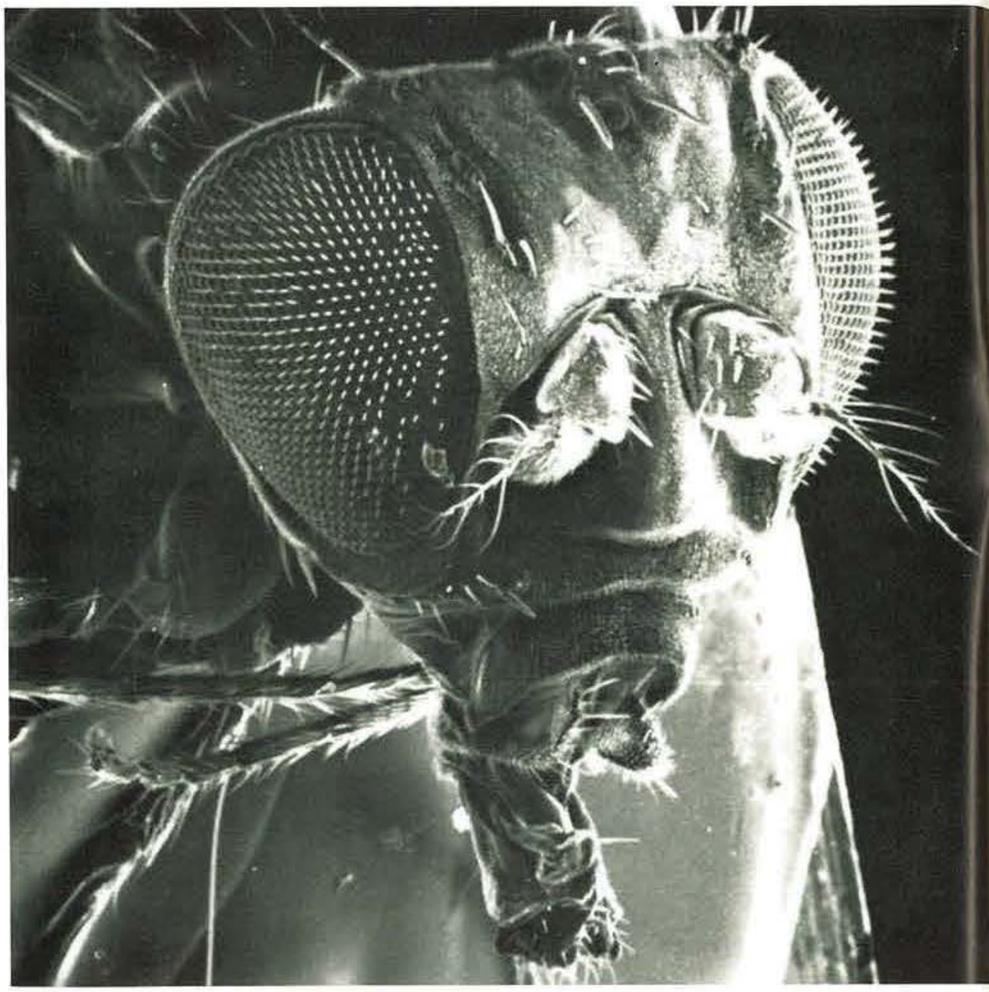

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a close look at the Eye of the Fly

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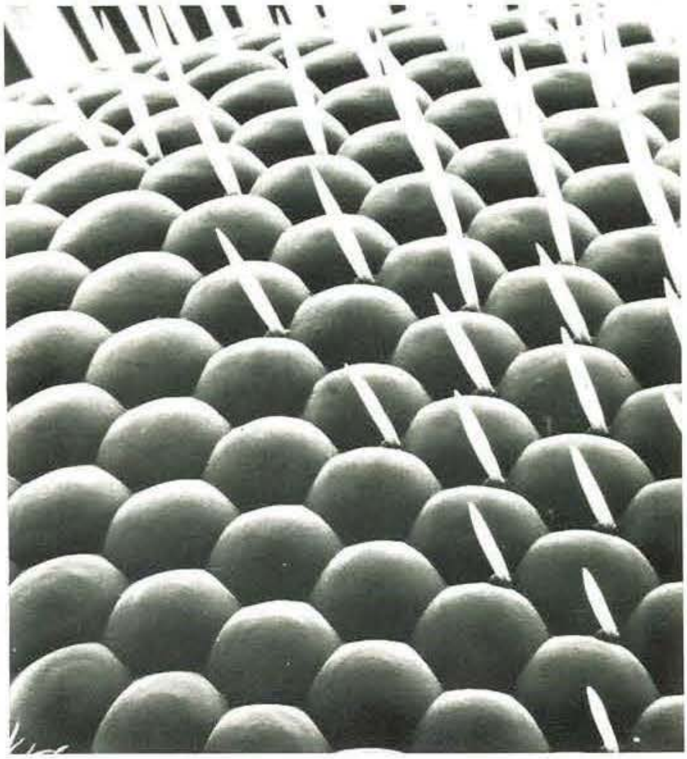
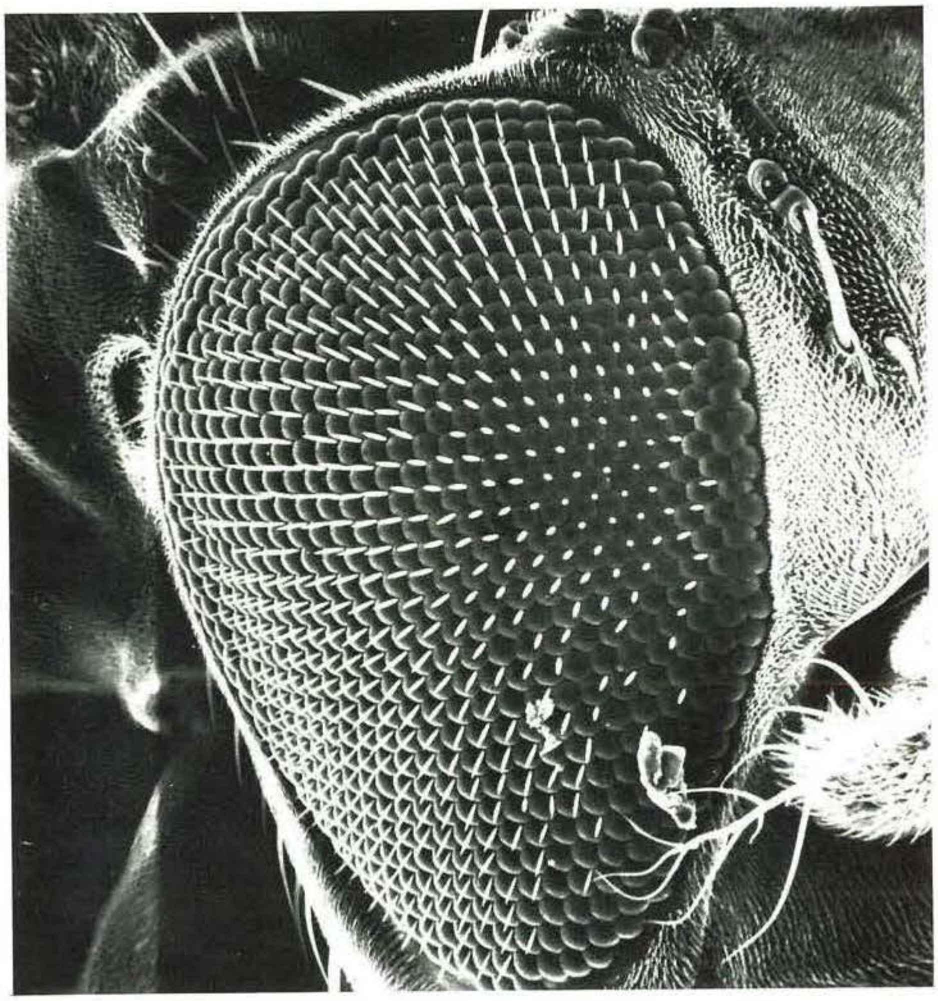


WE USE THE expression *bug-eyed* frequently. It usually connotes wide-eyed wonder or surprise; being agog, aghast, or even terror-stricken. But most insects' eyes, and those of some crustaceans, are actually specialized organs made up of hundreds of smaller eyes, each producing its own separate image. Such mosaic vision would hardly be suited to human needs, so we can be thankful we're not literally bug-eyed.

To lower animals, however, *compound eyes* are entirely satisfactory. Although the total visual impression is that of a series of different pictures seen from varying angles, the compound eye has several advantages: It can detect very slight movement, and it serves to warn an insect of danger approaching from any direction. But there is a disadvantage too, at least from the human point of view: The compound eye gives only a vague impression of the details of objects, for there is no focusing mechanism; therefore, only those things very close by can be seen clearly by an animal with compound eyes. But then, what else would be of interest to a bug?



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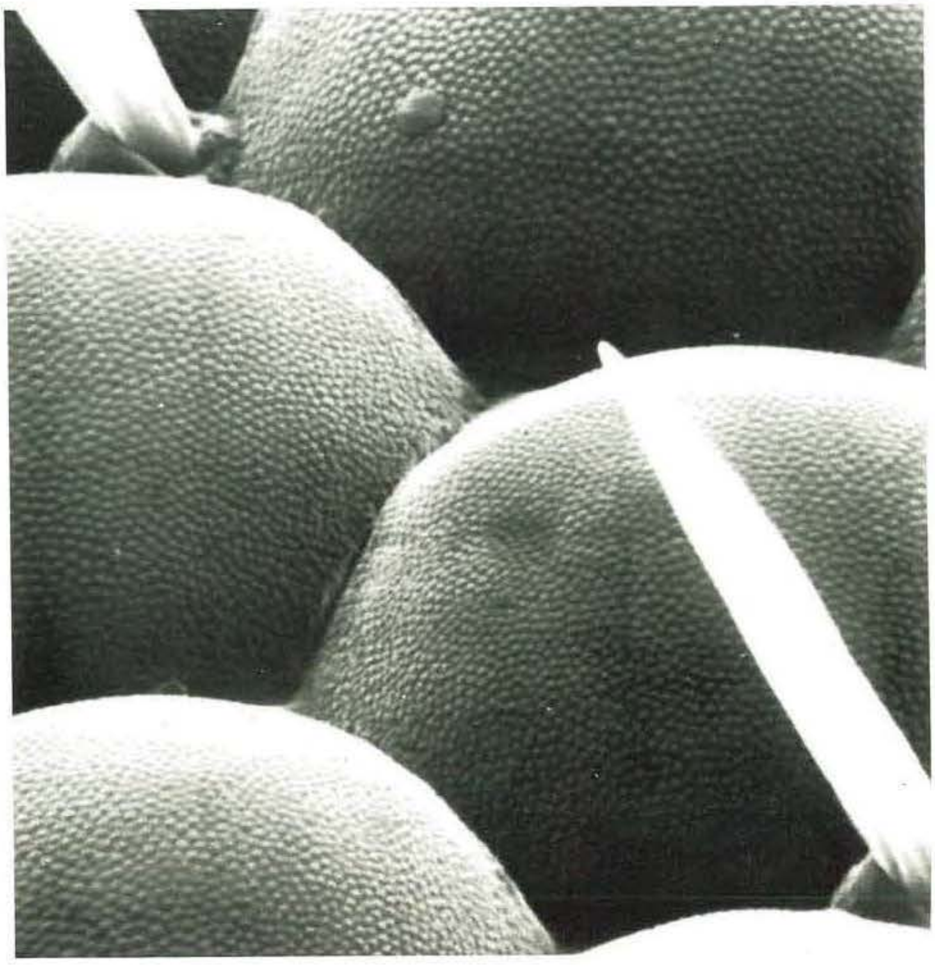
Although all compound eyes are similar, those of our subject happen to be those of an insect pest, the Mediterranean Fruit Fly, shown in Photo 1. The front view of its head, magnified 190 times in Photo 2, reveals not only the great eyes, but its prominent mouth parts as well. A closer look, Photo 3, clearly shows the facets of each simple eye—inside which there is a corresponding group of visual cells called *ommatidia*. These separate structures produce the mosaic the animal sees, composed of as many little images as there are simple eyes. This symmetrically pleasing view is magnified 372 times. The closely grouped facets, each containing a corneal lens, are shown at 2,300X-magnification in Photo 4, with the tiny bladelike *setiform hairs* being clearly visible at most of the interspaces. These bristles, and the bumpy basketball-like surface texture of each facet, are shown in incredible detail at 11,900-power magnification in Photo 5. ●

Photomicrographs
By
Ron Parker
And
Gladys Chapman

5.



With the exception of Photo 1, the illustrations on these pages were produced with the aid of the scanning electron microscope at Florida State University, Tallahassee. They were made in connection with the work of Drs. Lloyd M. Beidler and Pasquale Graziadei and their associates at the Psychobiology Research Center, Department of Biological Science, FSU. They study the sensory and motor abilities of various animals. (See also FLORIDA WILDLIFE, June 1972, pages 4-5.)

Wildlife Officer Notes

FELLOW OFFICERS AND FRIENDS and sportsmen from all walks of life mourn the untimely death of Sgt. Harry C. Chapin, 49, of Tallahassee, who was fatally shot on Sunday, November 5, 1972, while he and three other wildlife law enforcement officers were attempting to apprehend alleged game law violators in rural Gadsden County.

Chapin, a veteran of nearly 23 years with the Florida Game and Fresh Water Fish Commission, was leading a night patrol in an effort to arrest suspected nighthunters when the shooting occurred, around 1:30 a.m. None of the other officers were injured.

Three persons were arrested and placed in the Gadsden County Jail, at Quincy, in connection with the case. Two of them were apprehended at the scene; the third was reportedly picked up at his home a short time after the shooting. All are from Gadsden County.

According to Maj. Brantley Goodson, chief of law enforcement, Game and Fresh Water Fish Commission, Sgt. Chapin and wildlife officers Jack Polk, of Chattahoochee, Marshall Futch, of Crawfordville, and Pat Weaver, of Tallahassee, were staked out the night of November 4th to catch gun-and-light hunters who had reportedly been active in the same vicinity for several weeks. When the officers made contact with the suspected firehunters, one of them allegedly fired his shotgun, hitting Sgt. Chapin, killing him instantly.

Chapin was a native of Springfield, Massachusetts, and a Navy combat veteran of World War II. He was employed by the Game and Fish Commission January 1, 1950, and had earned wide respect for his dedication to duty, his superb skill as a woodsman, and for his high degree of proficiency as a professional law enforcement officer. He was a quiet-spoken man who performed his duties with dignity and without emotion.

In 1962, he was selected as Florida's Outstanding Wildlife Officer of the Year, and was recognized by the Southeastern Association of Game and Fish Commissioners. He was promoted to the rank of sergeant in September 1970, when the position was first authorized.

Ironically, Chapin had survived an earlier shooting in his career as a law officer, and under much the same circumstances as those encountered the night of his death.

In December 1958, he was slightly wounded by a blast from a firehunter's shotgun while on night patrol, on foot, on the Baker Plantation, in Leon County. He was spared serious or fatal injury when his leather gun belt and a flashlight he was holding stopped several buckshot.

Mrs. Chapin, who lives at 1908 Talpeco Road, Tallahassee, is the former Elverie Williams, of Jefferson County. Sgt. Chapin is also survived by a son, Harry M. "Chip" Chapin, 22, and a daughter, Cecile, 18.

HARRY C. CHAPIN

Photo By Art Runnels

Final respects were paid Sgt. Chapin on Tuesday, November 7, at services attended by Governor Reubin Askew, state senators and representatives, personnel of the Game and Fresh Water Fish Commission, members of other state and local law enforcement agencies, and friends of the family from surrounding counties and around the state.

Interment was in the Beth Page Cemetery, in Jefferson County.

An appropriate final tribute was paid by one of the wildlife officers who was with Sgt. Chapin on the fateful night of November 4–5. He said, "If the shot had missed, you can be sure Harry Chapin would be on patrol somewhere in this area tonight."

FLORIDA WILDLIFE OFFICERS responded to 4,873 citizens' complaints about alligators during 1971-72, according to a survey conducted by Maj. Brantley Goodson, chief of law enforcement, Tallahassee. They managed to capture and relocate 1,680 of the nuisance 'gators, but resorted to destroying 52 after repeated unsuccessful attempts to capture them for removal to wilderness areas.

Based on the results of a special questionnaire filled out by the state's wildlife law enforcement personnel, it is estimated that there are 251,600 alligators in Florida today, representing a 53% increase in the 'gator population over the past 4 years.

A summary of their questionnaire replies further indicates that some 2,000 alligator hides were taken illegally during the period, and about the same number of live alligators were captured illegally.

It was also estimated by the reporting officers that approximately 1,400 of the fully protected reptiles were destroyed by private citizens in violation of Florida law, this estimate having been reasonably well authenticated from Commission arrest records. ●

Shad Signs

if the shad fishing "hot spots" become crowded, try searching elsewhere for "spawning signs"—unexpected angling action areas can be located

By CHARLES WATERMAN

SHAD FISHING TECHNIQUES in the St. Johns River are pretty well established. I haven't seen anything drastically new in recent years. A few of us have been catching them on flies, but the method is scorned by those who prefer trolling, and my exuberant accounts of the joys of fly fishing for shad have created no sensation. I hereby give up on that. Although I'll continue to use flies, I won't attempt any more conversions, despite the fact that fly casters farther north consider that the most sporting method of all.

But maybe I can interest someone in scouting for new shad areas, something most shad fishermen don't even consider. The accepted technique is to look for the heaviest concentration of boats and then move into the procession. There are reasons for that, of course. You can get a pretty good idea of how the fish are hitting and you can do some frank spying on the more successful operators. You can even sit around without fishing until you see someone getting results, and you can keep the thing on a social basis if you want to.

There are well-known shad hotspots that produce every year, water levels being satisfactory, and there certainly aren't any secrets about those. The fishing camps near them are quick sources of information and the more effective lures.

Much of the best shad fishing goes begging simply because few anglers bother to look for new territory. Last year I heard of fishermen who had concentrations of shad all to themselves only a short outboard trip from the "name" areas.

Some of the unfished spots are former shad fishing meccas that lost their fish for some reason or other and then have come back with no one noticing. In other cases the fishing area is really new, having developed because of a bottom change or current vagary, and now and then there's a shad spot that just hasn't been found by enough fishermen to make it popular.

The best sign of working shad is the "wash," or gentle roll, on the surface. One wash doesn't make a concentration of shad, but if you see a dozen you should be in business if and when they start striking.

There are several things that look like a shad wash. The thing that resembles it most is the surfacing of a small garfish, but you eventually learn the difference. If you watch closely you'll eventually get a full view of a washing shad, as they sometimes come nearly all the way out of the water. In the St. Johns, it is very rare for a shad to jump unless it has been hooked.

It is best to look in bends of the river. Spawning shad are not necessarily concentrated in bends, but it is in the bends that you'll find a variation in current speed and bottom modifications that appeal to the fish's spawning instincts.

Not all of the shad you'll hook are necessarily spawning or very near the point of spawning, as they can be caught while traveling upstream to spawning areas.

Just how consistently the new spawners return to their place of origin is not known. Undoubtedly, many stop off sooner if conditions are right, while others continue farther upstream if things aren't exactly suitable at the "home" spawning grounds.

I have located virtually unfished shad grounds myself, but, more importantly, I get a hot tip or two almost every year from fishermen who tell me they've found a stretch of shad water and had it all to themselves too.

Shad fishing generally runs good from late December through most of April. Could be earlier or later.

THE BUSINESS OF CHUMMING has been outlawed under some conditions in some American waters, although it remains a basic procedure in much salt water where light tackle is used. It has been a highly effective fresh water gimmick in some Florida rivers where a double handful of live bait can be released in a strategic spot to attract bass which will then strike a hooked bait or an artificial lure.

This is perfectly legal in Florida, and although it may add to the catch, it is no hazard to the bass population. It can't be classed as either good or bad sportsmanship. Certainly it is no less sporting than using live bait for bass. No complaints.

In salt water the chum line can be either live or cut bait. The latter can be ground up in a sausage grinder to present an oil slick attractive to a large variety of fish. No complaint there either.

But when chum is employed in salt water to enable competitive anglers to win championships with light and sometimes inappropriate tackle, the question becomes a bit touchy. There are instances when

(*Continued on next page*)

(Continued from preceding page)

chumming is the only way an angler can hook the fish he is after, and there is nothing unsportsmanlike about it—but when a chummed specimen is hooked by a fly, for example, with the feathers simply dangled in front of his nose at rod's length, I have some doubt if it was taken by "fly casting," although that's the way it goes into the record books.

No two cases are exactly alike, so flat statements are out of order, but I have a lingering feeling that to really take a fish by plug casting or fly casting or spinning you should attract him with your lure by throwing it where he is or is likely to be and making him want it without the added attraction of teaser or chum. Nobody likes to chunk a fly into a chum line better than I do, but I wonder if a big fish so caught is really a fly casting fish.

The obvious answer to this is that many salt water fish are almost impossible to take on a fly without chumming or teasing. How else are you going to do it?

No way. Put out the chum and catch them. I love it. But I'm not so sure these fish should be accepted in contests. Maybe they're not really "fly fish" and catching them is merely a stunt, however much fun it is.

AT THE RICHLOAM Fish Hatchery they're hoping to develop a strain of "super fighting bass." I don't know how it's to be done, but I have no doubt it's possible despite the many variables that go into the fighting qualities of any given fish.

Friend of mine in the North tried to develop a rainbow trout that would jump more than the usual trout. He had a system of chasing them around so that they had to leap barriers and his reasoning was that the ones that wouldn't jump would not be propagated. I don't know how it worked out.

Several things enter into the fighting qualities of any game fish, not the least of which is the fish's general condition.

A fish with a large head in proportion to the rest of its body is generally underfed and probably not much of a fighter. A fish with a small head has generally had rapid growth and is likely to be healthy—and athletic. A thick and deep body usually means the fish is well fed and full of pep. On the other hand, a fish filled with eggs can be logy, even though its body depth is deceiving.

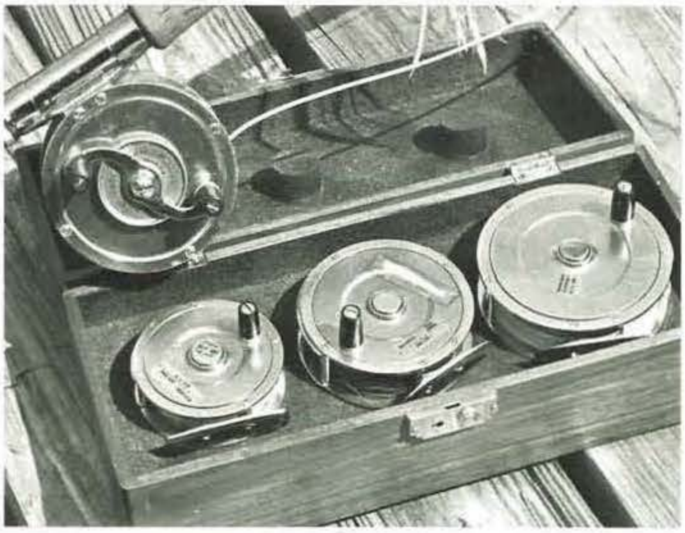
Given a healthy fish, I suspect water temperature is the most important single factor in a fish's gameness. Each species in each part of the country has an optimum temperature range. Water colder or warmer than that will slow the fish down. But the ideal water temperature for a Michigan fish may be considerably lower than that for a Florida fish. A given strain of largemouth bass, for example, may be specially adapted to a certain latitude.

And finally, the individual fish may have individual fighting characteristics. Some are jumpers and some are diggers. Even among tarpon there are fish that do not jump when hooked, and many bass do not. All of this adds up to the fact that you can't score a fish on fighting qualities on the basis of one trip in one section of the country.

SOME OF THE MORE confusing fishing dilemmas are caused by line size. One character cleans up with a given lure while the guy in the other end of the skiff has a dry run. Especially with the lighter lures, line size has a great deal to do with lure depth. When monofilament came on the scene, it became possible to fish much deeper while either retrieving or trolling, simply because the small diameter let the lure sink more quickly. Hence, some users of ultralight monofilament are notably successful. On other occasions, the heavy line catches the fish.

This line size business is all tied in with line visibility. A lot of people in white smocks have spent a lot of years trying to make invisible fishing lines. They have come pretty close in some instances, and other things being equal, it's better to have a line that doesn't loom up like a hawser. However, some fish couldn't care less about line visibility. When it's attached to a large lure making a lot of disturbance a line isn't likely to attract much fish attention. But when the lure is small and worked slowly, with little

Fighting qualities vary with fish's physical condition. This one is of about average "build" for a largemouth.



Heavy-duty fly reels made in Florida. Attached to the rod is a Seamaster—in the box is a set of Fin Nors.

commotion, the line undoubtedly has its effect on most species. It is a deciding factor in some of the most delicate fishing.

But the line visibility business is already widely noted. It's the sinking rate that's too often ignored.

I DON'T KNOW about the laws concerning such things, but I've seen a lot of bass boat users taking a big chance lately by running at top speed while seated on very high fishing seats. A collision with anything could put somebody in the drink and boats designed with extremely high seats are usually made to allow a lower passenger position when running. There's talk about safety belts, but unless there's a foolproof release in case of a wreck I don't think belts on a boat are a good answer.

Better get down lower.

MOST FISHING LINES that are broken on fish snap out near where the fish is fastened on. One reason for this, of course, is that the line out there gets more use and is more likely to be worn or frayed. The other reason is that there's actually more pull on it than on line next to the reel. I said that a while back in this column and got a little argument, the scoffers saying that when you pull on a string you pull just as hard at one end as you do at the other. That isn't entirely right. Let's explain it a different way and show it in a simple illustration.

Now my point was that when a fish runs at an angle or circles with a lot of line out, he is setting up a lot of line stress in addition to that on the drag. (But that's more difficult to explain than the present illustration with which I'm going to prove what a physicist I am.)

Set the reel drag at 5 pounds. Fasten the 6-pound line to something solid and put a sharp bend in the rod. Keep bending the rod until the line breaks up near where it's fastened. My point is that the bend in the rod (or a bend through the water) sets up additional strain on the line. The reel is still feeding off line at a 5-pound pull, but by the time that pull is transmitted through those rod guides in a sharp bend, it is greatly increased.

This conclusion will never rank with Newton's discovery of gravity or Ben Franklin's decisions about electricity, but for me it's a real triumph.

I TOOK A BOAT TRAILER to the repair shop the other day after I had found some rust spots and some rotting wooden bunkers. It wasn't until I had started a more careful examination that I found the leaf springs were in bad shape from rusting you wouldn't ordinarily notice. The problem, of course, was salt water that had been running between the leaves all this time and hadn't been flushed out by fresh water washing. Paint doesn't protect the areas that work as the rig goes over the bumps. Ordinary oil is hard to get in there, and most of us don't bother with it anyway. Lefty Kreh of Miami reports that he douses his trailer springs with a mixture of STP and kerosene in equal parts and the rust stays away. I neglected mine too long.

I HAVE HAD NUMEROUS inquiries about heavy-duty fly reels—those used for big splashy things formerly never associated with fly rods but quite fashionable in this day of 150-pound tarpon and 50-pound amberjack.

I won't recommend specific brands, but there are several husky reels that will land giants. For that matter, even a light-duty reel will do the job if you handle it properly and it's well made—and will carry plenty of backing.

There is one difference in design in some of the most expensive reels that isn't readily understood. It's the matter of freespooling as against the simple single action. In the freespooling reels, the fish can run with the line while the reel handle stands still and the drag provides the tension. The advantage of this combination is that a sudden yank does not crack your knuckles or break your leader if you're slow in letting go.

In the simple single action the handle turns as the fish runs—a disadvantage if you have too many thumbs. However, the advantage of this type, as set forward by its exponents, is that takeup is instantaneous any time you start turning your handle. In other words, the handle is independent of the drag and any time you turn it, the line comes in. With the freespooling reel you cannot take up line unless the resistance is less than your drag is set for.

The heavy-duty reels are all good, but you may have preferences. Think about it a little. ●

squirrel chatter

Photo By Wallace Hughes

THERE ARE SEVERAL varieties of gray squirrels in Florida, all of them infuriating.

Although my classification may not be scientific, for purposes of discussion I divide them this way:

1. Gray squirrels which find a way into my attic and dance a polka at daybreak each morning. There are no visible entrances to the attic except through my bedroom, yet these mysterious mammals find a way in. The attic squirrel is most commonly heard when one has overnight guests.

2. The bird feeder squirrel inhabits suburban backyards and refuses to eat acorns and leftover Christmas nuts. It subsists solely on choice seeds stolen from squirrelproof bird feeders. Its favorite feeding position is to climb into a feeder trough, lie on its back, prop its head up with one arm, and toss seeds into the air one at a time and catch them in its mouth.

3. Another variety is particularly vicious and always takes my lunch away from me when I eat in a city park.

4. The fourth variety of gray squirrel is the one I hunt each fall and winter. This species is most visible from March until November 10. The hunting season opens on the eleventh and it suddenly disappears, migrating to Cuba or somewhere.

Hunting Florida's gray squirrels is not as glamorous as wing shooting for bobwhite quail or doves, but it's just as challenging. You have to be a better woodsman to get a limit of 10 squirrels than to bag a dozen quail, and you sure have to work harder than dove shooters.

Most youngsters learn to hunt by going after squirrels and rabbits. Fortunately, Florida still has a great amount of squirrel habitat, enough so that in the 1970-71 season hunters could take 1,630,000 with no danger to the basic breeding population.

This total was based on a mail survey and, of course, is subject to plus and minus adjustments. By regions, the harvest was: Northwest, 641,876; Northeast, 414,840; South, 273,201; Central, 213,369; and Everglades, 86,773.

Wherever there is good habitat, the gray squirrel thrives and multiplies. It's highly adaptable to suburbs, city parks and changing agricultural patterns if left a few mast and den trees. It survives a change of predators which feed on it, swapping bobcats and horned owls of the big woods for suburban dogs, cats and small boys with slingshots. If it gets isolated in a city park surrounded by concrete, it learns to panhandle for peanuts and popcorn. At a picnic area it may be tame enough to eat from your hand, but in the wild, under pressure from hunters and other predators, it becomes wary and hard to find. In its natural habitat, it's enough challenge for Florida hunters to spend more than 830,000 man-days hunting for it each season.

To successfully hunt any game species, it's necessary to understand the habits of your prey. Gray squirrels normally have two main feeding periods, early in the morning and late in the afternoon. The average squirrel will weigh about one pound and eat one and one-half times its weight each week. Squirrels wake up hungry and start rambling in search of food at daybreak. During midday they loaf and play in the trees and groom themselves. They usually skip lunch and start looking for dinner a couple of hours before dark.

If squirrels have a constant supply of food they don't change addresses and are happy to spend their lives inside three or four acres. The hunter's main problem is to find where squirrels are feeding, either by sighting them or finding fresh cuttings of nuts, or other signs.

If you are a sportsman who loves dawn patrols, then you'll like squirrel hunting. You should be at your first station in the fresh morning before the orange sun rays headline a new day.

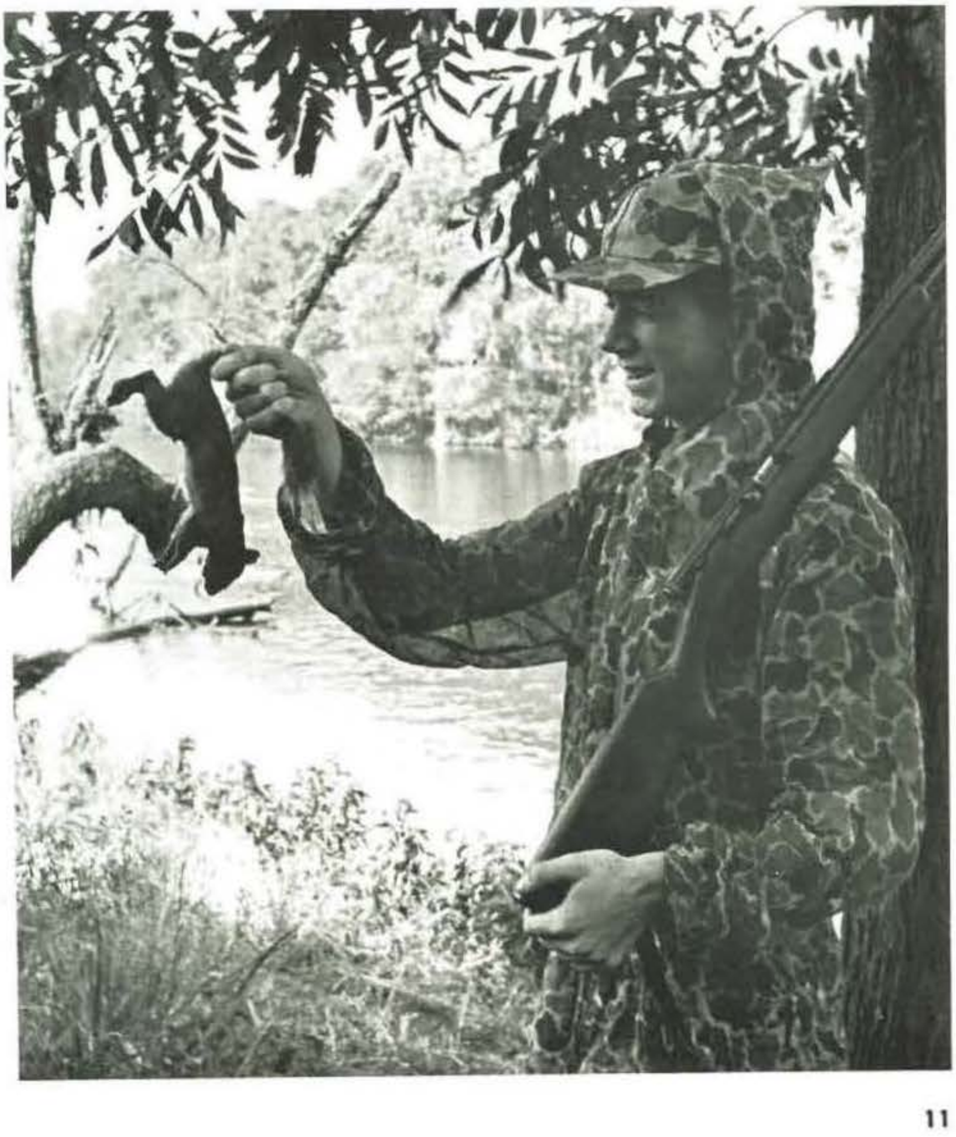
The one food a gray squirrel prefers above all others is hickory nuts. They're partial to pecans, walnuts and white oak acorns, but if there's a choice they'll take hickory nuts. If in your prehunt scouting you find a hickory tree with cuttings under it, you'll want to be posted for a clear shot in range of that tree before daylight.

To keep living, squirrels depend heavily on sight and hearing in addition to patience, camouflage and escape routes through thick branches. If you don't have time for the waiting game, then you shouldn't

(*Continued on next page*)

Photos By Charles Dickey

By CHARLES DICKEY



Hunting the gray squirrel, left, is really quite a challenge; for the mind, the ears, and the eyes. Look for squirrel signs near your feet. Trimmed hickory shells, above, are a dead giveaway. On a still morning a hunter might actually hear the bushytails gnawing, and some cuttings peppering down on dried leaves. Squirrel hunting is ideal .22 rifle sport, right, but in dense cover or tall trees, shotgunning may be preferred.

(Continued from preceding page)

be hunting squirrels. Waiting quietly with as little movement as possible is what you must do to have squirrel stew. Any unusual noise, such as stepping on a dry limb or banging a rifle bolt closed, will spook a squirrel.

Generally, biologists say that most squirrel species, or individuals, do not distinguish color; everyone agrees that squirrels see movement instantly. If you wear clothing which blends with surrounding vegetation, they are less likely to see movement. But even if you are completely outfitted in camouflage, with green grease paint on your face, sudden movement is enough to "freeze" a squirrel to a limb for 20 minutes, or send him scurrying through the trees.

Much of the key to waiting successfully is picking a spot where you can sit comfortably with your gun in an easy position to be shouldered for a quick shot with a minimum of movement. The typical squirrel hunter sits on the ground with his back propped against a tree and his gun cradled with the muzzle tilted upward. Ideally, the tree and any surrounding brush help hide his movement. He should have a clear view—at least 270 degrees—so he can scan the trees for targets.

Perhaps the most important thing of all is to make sure your seat is comfortable. If you plop down on three acorns, your hind end may endure it for a few minutes, but the pain will become unbearable at the exact instant you hear an approaching squirrel.

It is axiomatic that no matter when you decide to change positions, that will be the second a squirrel is looking your way. It is also an eternal verity that no matter where you sit, you will be attacked by insects, or start to itch, or both. There's no getting around it! You can't sit waiting for squirrels without having to scratch. All you can do is position yourself comfortably for a long vigil so that you can scratch without scaring the squirrels.

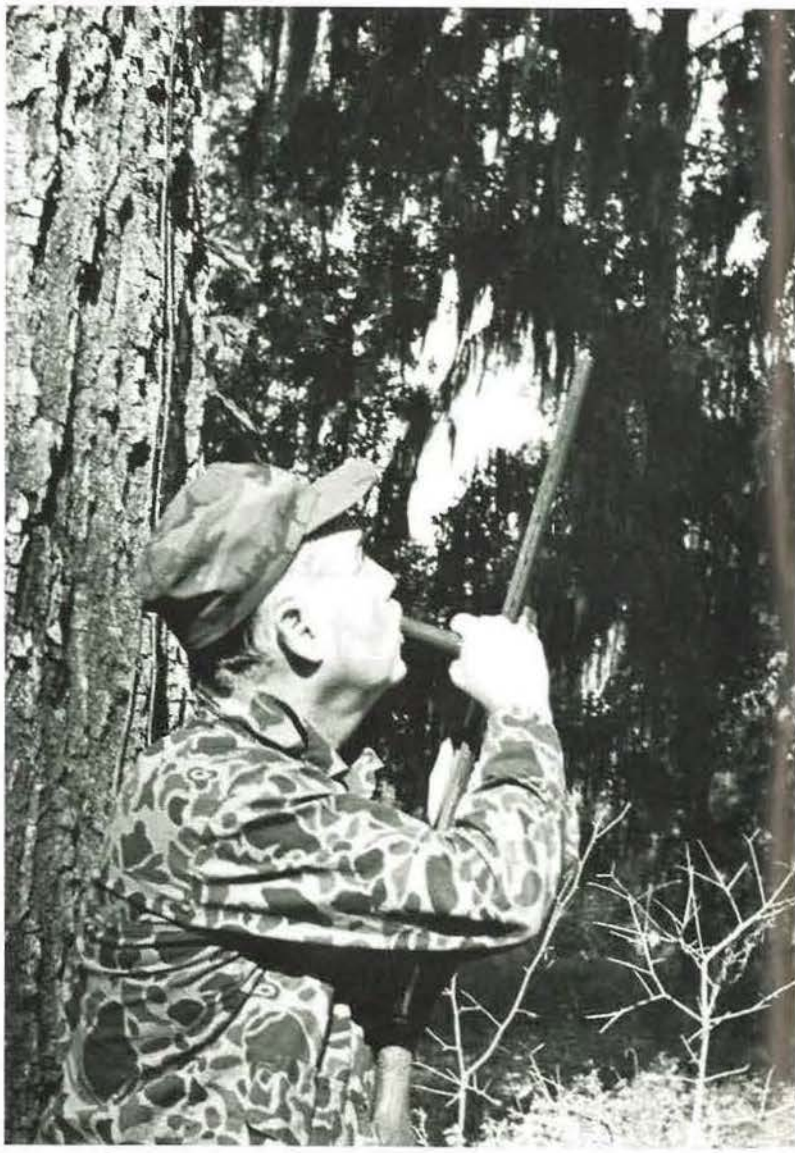
Most of the time, gray squirrels prefer to approach a feeding area through the crowns of trees, but they'll also travel short distances on the ground, so be alert for this.

Just as the squirrel depends on sight and sound for defense, the waiting hunter uses these same senses to locate his quarry. It's amazing how quickly your ears, dulled by television and other mechanical contrivances, will become attuned to the slightest sound in the sweet hush of a deep forest. The tiny claws of a squirrel scampering on dry bark will rustle enough to alert you. When scanning, you watch for moving branches or the silhouette of a gray body scuffling along an oak trunk. Quite often the waving tail of an approaching squirrel is the first signal flare that attracts your eyes.

If you hunt with a shotgun, odds are that you can hit a running squirrel. If there is only one approaching squirrel, you'll want to shoot as quickly as it offers a reasonable chance. If you knock it down, walk over quickly and pick it up; a lot of "dead" squirrels disappear when hunters wait to retrieve. If you miss, and no longer see the squirrel, you should remain still. It will probably be confused as to the direction from which the sound came. This is the start of an endurance contest between you and the squirrel as to who makes the first move. The one which moves first loses. You have the advantage; you had breakfast before you left home. The squirrel is hungry and curious, and if you remain quiet and still it will soon peek over a limb or ease around the trunk. Some hunters use a squirrel call and give a chuckle to assure the nervous quarry that all is well.

If you're a .22-rifle hunter on station at dawn, you have much more of a challenge than the shotgunner. Unless you're an expert shooter, you can't hit a running squirrel. You have to wait until he's still. A shotgunner can cheek his stock in an instant, point and shoot accurately. A rifleman has to ease the stock up, making sure the squirrel sees no move-

Photo By Charles Dickey



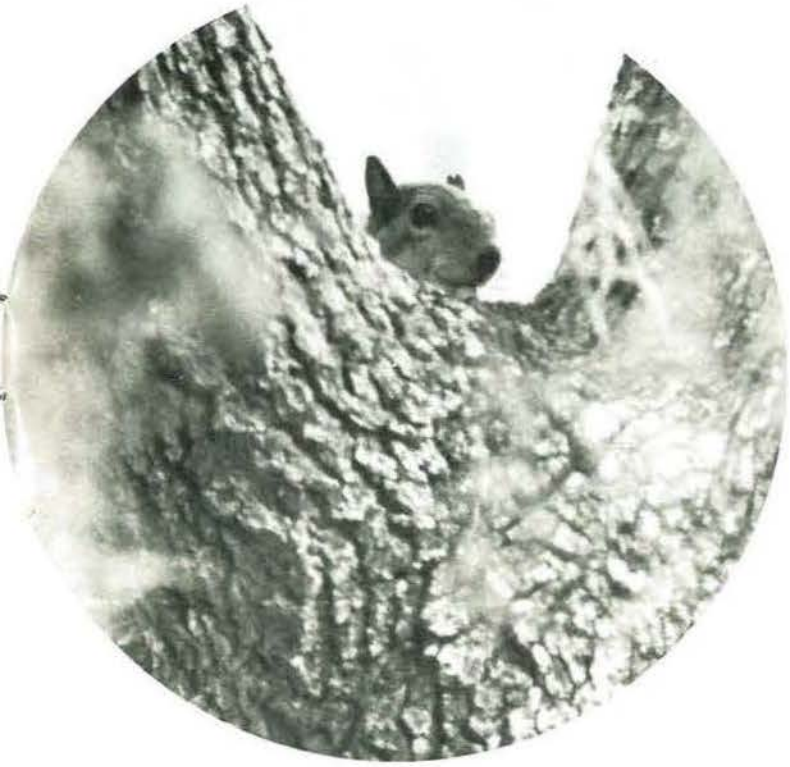


Photo By Gene Smith

Using a squirrel call, left, may cause curious bushytail to peek from his cover to see what's going on, revealing his position to the hunter. With a shotgun, the above may be a marginal shot because the target is so small. With a scope-sighted rifle, however, it is a pretty easy shot.

ment, and take time to aim, breathe correctly and squeeze the trigger. He has only one pellet, not a shotshell full. There's no margin for error, especially if he's a head shooter.

If there are ground signs of a lot of squirrel feeding, after you bag one you may want to wait quietly for more, especially if you're working a hickory tree. How long to wait is the eternal question. Will another squirrel come in or would you be better off to try another location you've scouted? Usually the first hour after sunup is the time of greatest squirrel activity. You're probably better off to wait. When you think it's time to go, wait 5 minutes more. That's when another squirrel will pop in.

Finding squirrels from midmorning until midafternoon, and getting in shooting range, is more difficult than hunting during the two main feeding periods. You might sit in an area where you know there are squirrels and get an occasional shot, but if you're a careful woodsman you can do better by walking and halting.

A misty or drizzly morning, when leaves on the ground don't crackle like breakfast cereal, is an ideal time to use the sneak-and-wait method. Under favorable conditions, there would be little or no wind; squirrels hole up and go back to bed during high winds.

It helps if you'll imagine you're scouting hostile Indian country for General Custer and there's a lurking Sioux behind each bush. You walk slowly and deliberately with no sudden movements. The real trick is to focus your eyes 50 to 100 yards ahead, not directly overhead. You watch for the flicker of a bushy tail, sudden vibrations of small branches in the crowns of trees, and silhouettes. A suspicious bump on a limb may be a flattened squirrel which has seen you.

The novice squirrel hunter walks fast, as though he has to do 20 miles by dark. The experienced hunter melts along, stops and looks, moves a few yards and looks again. He searches the ground for fresh squirrel tracks or cuttings; he scans the ground ahead to spot a scampering squirrel. Mostly his eyes are focused well ahead, combing a likely tree trunk and each branch, back and forth like a searchlight. His peripheral vision is fine-tuned to detect the merest flicker of movement or a dark shadow that somehow seems out of place.

If there's a slight hint of a squirrel, the veteran hunter instantly freezes. Has the squirrel seen him? If not, it might be better to wait right where he is and see if the squirrel will ramble his way. It's easier to let a squirrel move up on you than for you to sneak up on him.

If the squirrel is suspicious, or doesn't head your way, you've got a challenge. You have to sneak within shooting range. Before taking a step, you look over the cover situation. You have to assume the squirrel will probably hear or see you. Which way will it scramble? Can you circle and keep him from getting to travel lanes in tall, thick trees? The tactical problem is to maneuver so that the squirrel holds in one tree.

Once you know a squirrel is hiding in a particular tree, you have the choice of outwaiting it or cautiously circling the tree to get a quick shot at it. As every hunter knows, a squirrel's favorite trick is to keep the tree between itself and you. If you are circling, you have to cover a wide circumference while the squirrel has a small one; it can move only a few inches and you're blocked by a tree trunk or branch. This is the ideal time to have two hunters opposite one another—sooner or later, one of them gets a shot.

The late afternoon hunting is much the same as early morning. You know squirrels will be feeding and you stake out at a choice feeding tree. They'll probably feed right into dusk and then scamper for a nest or den. You'll be eligible for a long walk out of the woods after dark. If you're toting a limit of 10 gray squirrels, you've had yourself quite a day, and you're a pretty good woodsman. ●

Florida Deer Facts

By **LOVETT WILLIAMS**

Photo By Larry Martin

What Is a Florida Deer?

THE FLORIDA DEER is the same white-tailed deer found throughout North America. Its scientific name is *Odocoileus virginianus,* and it is sometimes called the "Virginia deer" and the "Virginia whitetail." There are four subspecies of the Florida white-tailed deer, but the differences between them, other than the smallness of the Key Deer, are minor. The only other native deer in North America that looks much like a whitetail is the mule deer of the Western States.

Photo By Leonard Lee Rue III

How Many Deer Do We Have?

The deer population during the fall averages between 400,000 and 450,000 animals. Florida's more than 130,000 deer hunters harvest about 40,000 deer each year during the open hunting season.

How Are Deer Counted?

Four methods of estimating numbers of deer are used:

1. Counting deer tracks under controlled conditions—usually in late summer or the fall months, after rains.

2. From records of deer sighted by game managers and wildlife officers during their regular duty, and sightings and general knowledge of herd conditions as reported by local woodsmen.

3. From airboat and aerial counts of deer, the methods most commonly used in the open Everglades.

4. From estimates of total population based on samples of hunter harvest as reported on a statewide basis by means of mail questionnaires and other survey methods.

How Does Range Quality Affect Deer?

Deer on good range gain weight quicker, weigh more as adults, have more young, and have greater vitality and larger antlers than deer on poor range.

When you have a poor range with no deer on it, and then take deer from a good range and place them on the poor one, their young, when grown, will weigh less than the parents.

The whitetail buck is the prize of Florida hunters. The herd size of this number one game mammal is increasing.

What Do Deer Eat?

Stomach samples of 423 deer were collected during a 5-year study by Commission wildlife biologists. The animals were those harvested by hunters during deer seasons, from November to January each year of the survey. The samples showed that the following 20 foods constituted 85 per cent of the Florida deer's diet:

1. Oak Acorns & Leaves
2. Palmetto Berries
3. Mushrooms
4. Bamboo Briar
5. Deer's Tongue
6. Gallberry
7. Titi
8. Blueberry Leaves
9. Holly
10. Virginia Willow
11. Sweet Bay
12. Legumes
13. Horse Wicky
14. Ferns
15. Sumac
16. Willow
17. Elderberry
18. Black Haw
19. Yellow Jessamine
20. Blackberry Leaves

Deer also eat grasses and the leaves of a number of cultivated crops, including peanuts, watermelons, orange trees, strawberries and cabbage. Contrary to the opinions of some people, Florida deer do not consume twigs as they are believed to do in the North. Most food taken by Florida deer is close to the ground, which makes it appear that they are grazing.

What Is Good Deer Range?

Good deer range has adequate cover for the deer, with plenty of deer foods.

Florida's major types of vegetation include flatwoods, pine-oak uplands, swamps, hammocks, sand pine-scrub oak ridges, fresh water marshes, and prairies. The greatest variety and quantity of deer foods are found where a mixture of these major vegetation types occur, and along the edges of woods and fields. Swamps and hammocks contain a good variety of woody plants for deer browsing, especially around the edges. Large tracts of large trees with a heavy canopy overhead and a scarcity of ground cover food plants below provide less attraction for hungry deer.

What Limits Population Density of Herds?

1. Illegal hunting.

2. Disease and heavy parasite infestations. These may constitute a severe limiting factor under certain conditions.

3. Range *overstocked* with cattle or other competing livestock.

4. Poor range with inferior cover and food.

5. Harmful land use practices. Examples of harmful practices are the eradication of oaks to produce pines, and the complete clearing off of land for housing developments, highways, and other uses.

6. Indiscriminate running of deer by dogs—

(*Continued on next page*)

Photo By Leonard Lee Rue III

Deer reproduction is good in areas with nutritious food plants and adequate cover where females outnumber bucks.

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particularly harmful when does are nearly ready to drop their fawns, and under circumstances where dogs are apt to "live off the woods."

What Are Some Things That Benefit the Herd?

1. Proper harvest of deer to prevent overpopulation or underpopulation of the herd. On Florida ranges it is safe and desirable to harvest 20 per cent of the animals each year, if both sexes and all age groups were taken. Under the present "5-inch antler" law, approximately 10 per cent of the animals are legally harvested.

2. Reduction of illegal kill. Heavy illegal hunting may prevent a deer herd from increasing to the maximum carrying capacity of the range.

3. Control burning of pine woods and prairies increases phosphoric acid and some other nutrients in the soil, and protein content of plants—for a limited time.

4. Selective pulpwood and timber cutting increases shrubbery vegetation and sprouting, providing more deer food.

5. Fencing off natural food plot areas on range shared by deer and cattle. Fencing small acreages that contain preferred deer foods (such as those foods found in bayheads and hammocks) will reduce the competition between deer and cattle, which often becomes severe during the winter months.

Photo By Wallace Hughes

Palmetto berries, above, are a popular deer food. Tracks, below, do not reveal the sex of the deer that walked there.

What About Breeding Seasons?

In southern Florida, fawns may be seen in every month of the year, but peak mating and fawning periods are:

North Florida—Mating season is October, November and December. Fawning season is May, June and July (or August and September in west Florida).

Central Florida—Mating season is September, October and November. Fawning season is April, May and June.

South Florida—Mating season is August, September and October. Fawning season is February, March and April.

The gestation (pregnancy) period of a doe deer is 6½ months—190 to 200 days.

What About Doe Deer?

Does on good range, i.e., range having abundant, nutritious, palatable food, are sometimes capable of producing a fawn when they are 9 months old. However, under normal Florida conditions a doe is generally 1½ years old at first fawning—unless she is on very poor range, in which case she may be 2 or 3 years old before producing her first fawn.

Doe deer on excellent range produce one fawn the first year, but often bear twins thereafter. On poor range, twin fawns are seldom produced. On any range, triplets are rare in Florida.

How Many Does to a Buck?

Under experimental conditions, one buck bred 17 does, all of which gave birth to normal fawns. In the same experiment a different buck might have serviced more! It is unlikely, however, that a buck in the wild could contact that many receptive does. The doe-to-buck ratio in Florida is between three and four does for every adult buck.

Is Inbreeding Bad?

Inbreeding is an overrated problem in our deer herds. On poor range, both parent and offspring will be small, but, as has been pointed out already, this is the result of poor nutrition or normal genetics and not because of inbreeding.

What Is a "Wisconsin Deer?"

White-tailed deer from Wisconsin have been brought into Florida in the past. Hunters are likely to refer to any large, well-fed deer as a "Wisconsin deer." In all probability, however, the imported deer lived normal lifespans and have long since died out. It is certain that they did no good, and doubtful that they did much harm either. There were so few released that their genes were absorbed into the Florida whitetail populations, so they did not increase the size of Florida deer.

How Can We Increase Deer Size?

Where an overpopulation of deer is found, we can increase the size of the animals by regulating the number of deer to correspond with the available food supply. Again, when there is a shortage of food—especially good food—the deer are smaller.

What Is a Key Deer?

The small race of Florida deer that lives only in the lower Florida Keys goes by this name, although it is in the same species as the other deer in Florida. It is distinctly smaller than the mainland deer, and has shorter legs and facial features. Key Deer readily swim from island to island in Florida Bay. A few years ago, this animal was nearly extinct because of overhunting and its unique vulnerability to capture while swimming. Today its habitat is seriously reduced by the numbers of people who live in and visit the Florida Keys, but it is no longer seriously threatened by hunters. (It has long been a fully protected mammal.) Recently, the greatest toll of Key Deer has been taken annually by auto-deer collisions on the highways of Big Pine Key.

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A doe's first offspring is a single fawn, but thereafter she is likely to bear twins, if good food is plentiful. Spotted fawns found in the woods are rarely orphans and should be left alone. The law prohibits taking one home.

Photo By Gene Smith

(Continued from preceding page)

Do Food Plots Solve Anything?

When an area is overpopulated with deer, artificial food plots do not solve the problem; they add to it. It would take a tremendous number of plots to provide enough food of adequate nutritional value to be of any help to the overpopulated deer. After the food plots were put in, the deer herd would continue to expand beyond the ability of the area to support healthy deer. So, providing food plots without controlling the numbers of deer would only increase the severity of the problem—and at considerable expense!

Should New Deer Be Added?

New deer should not be added to a range that already has a breeding stock of deer. On a given area, there has to be a reason why the deer already present are not naturally increasing in numbers. The area may already have as many animals as it can support. Illegal hunting, or disease, or both, may be keeping the deer herd down. Just bringing in more deer won't solve these problems. Where *good* deer habitat is present but few or no deer are, restocking is justified—but may be expensive.

How Much Do Deer Eat?

On superior food, deer do well on 2 pounds of air dry food per day per 100 pounds of body weight. On most Florida range, the deer probably need to eat between 5 and 8 pounds of natural food per day.

Do Deer Eat Hay?

In Florida, very little. Even when deer are starving to death they merely bed down in the hay. However, deer in captivity can learn to eat some types of hay.

Do They Eat Grass?

Wild grass is not a very important deer food, but they do eat some grass. It makes up less than 1 per cent of the winter diet. Deer are very fond of certain agricultural grasses, such as oats and wheat, and will graze them to the ground where the herds are large.

When Do Bucks Shed Antlers?

Buck deer shed their antlers after the mating season has passed, approximately as follows:

North Florida—Begin shedding in January.
Central Florida—Begin shedding in December.
South Florida—Begin shedding in November.

Bucks shed their antlers every year. A few freaks may carry small antlers throughout their lives because of hormonal problems, and even does have been known to carry antlers. Most antlered "does," however, are actually intersexes—neither males nor females, in a functional sense.

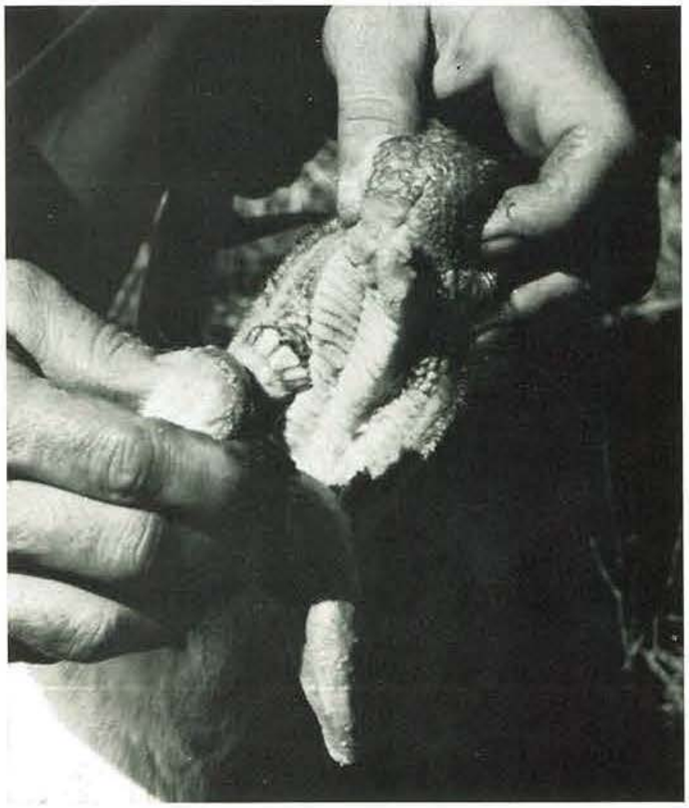


Photo By Gene Smith

What Happens to Shed Antlers?

They are usually eaten by rodents. Also, antlers decay fairly rapidly in nature.

Do Points Indicate the Age of a Buck?

The number of antler points is an unreliable indication of age. An 18-month-old buck on good range may have 10 points, while a buck of the same age on poor range may have no antlers at all. Age for age, the best antlers are grown by the best fed bucks. On very poor range it is possible that 50 per cent of the 18-month-old bucks will have antlers less than 5 inches long. Soil minerals and fertility affect antler size as well as body size.

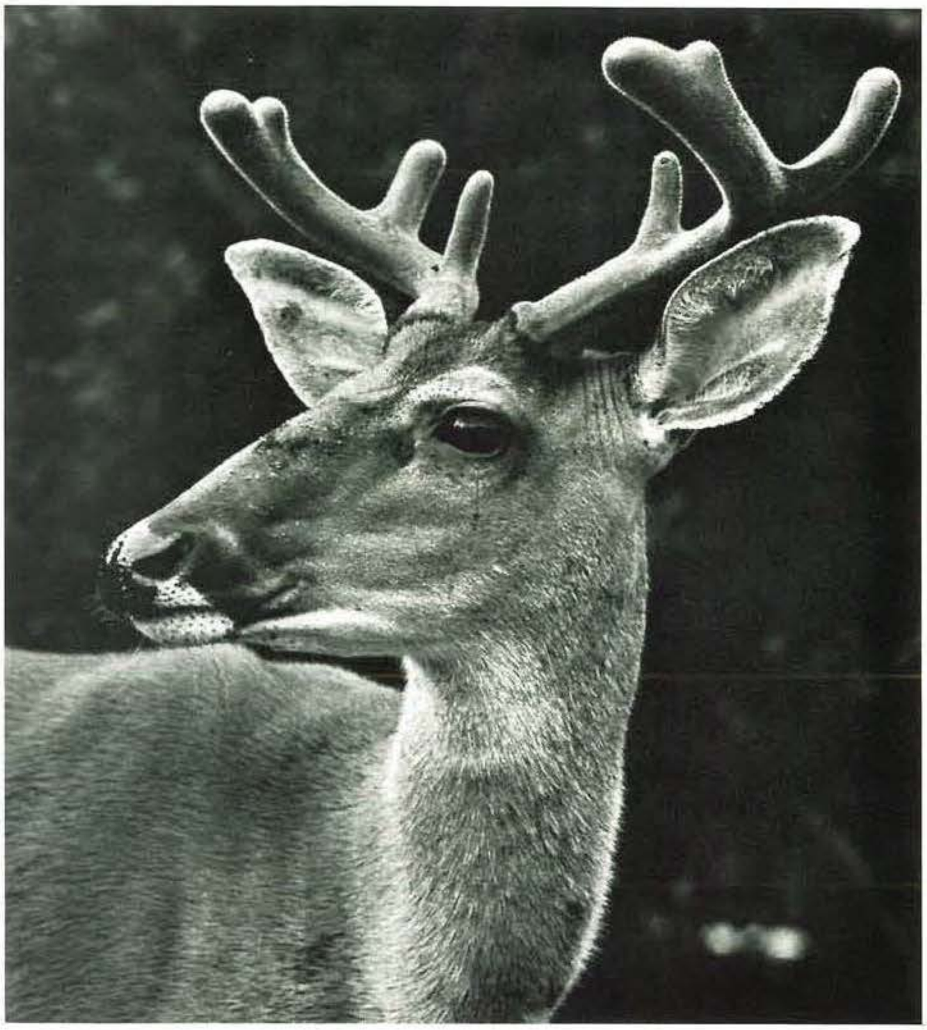
How Do You Determine a Deer's Age?

By their teeth. Younger deer are known by the absence of certain teeth which will develop later. Older deer can be "aged" by the amount of wear on the teeth. Only the *year* of age can be accurately determined this way.

Do Deer Move Far?

No. Studies made by trapping and retrapping marked deer, and radio tracking research, show that the average daily range of a Florida whitetail

A deer's teeth, left, reveal its approximate age. The number of molars and the amount of wear are indicators of year class, not the number of antler points. When "in velvet," right, antlers are loaded with blood vessels and are highly susceptible to injury. After hardening, however, they look like polished bone. After the mating season, the antlers are shed and destroyed by rodents and decay.



Photos By Leonard Lee Rue III

is about 1 mile, and the annual range is about 2 miles. Even deer chased with dogs were quick to return to their home range as soon as possible.

Can You Tell Bucks by Their Tracks?

Large bucks can be identified by their very large tracks, but does' and young bucks' tracks are not positively identifiable as to the animal's sex because they have overlapping track sizes.

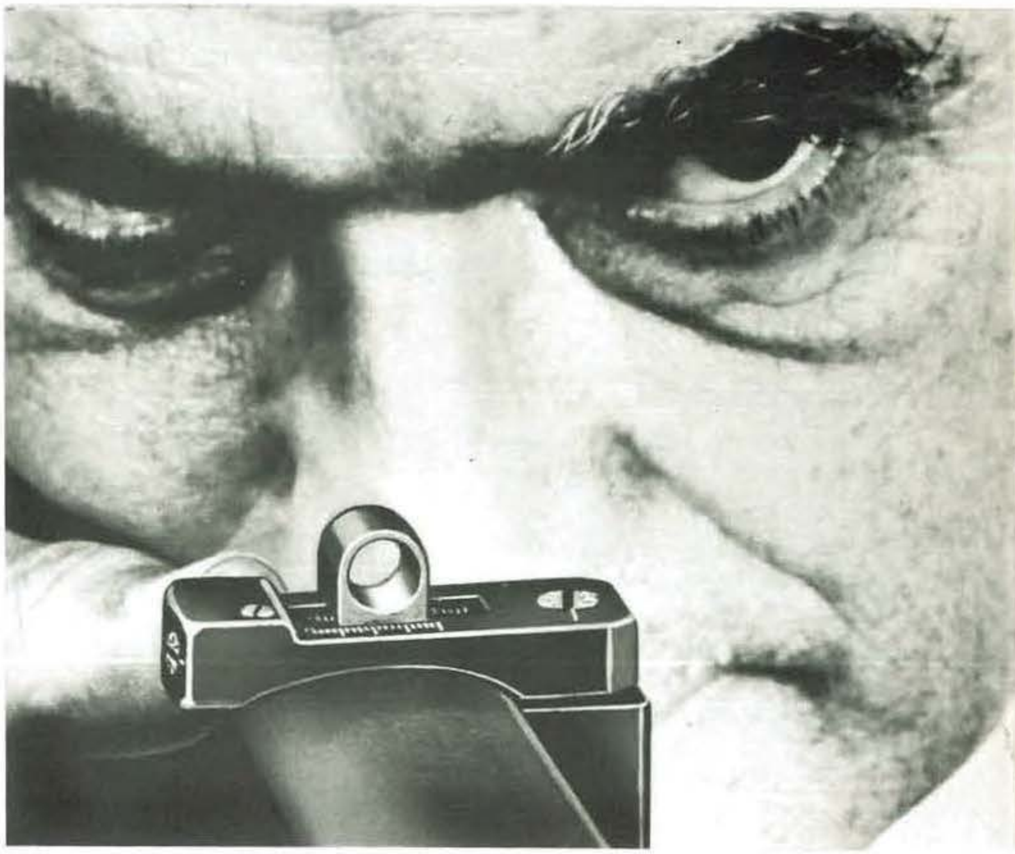
Is the Deer Herd Increasing in Florida?

Yes, but some local areas have reached their potential. Census methods and analysis of kill data indicate an upward trend in deer population over most areas of Florida.

What Is the Economic Importance of Deer?

Florida deer number over 400,000, as stated at the beginning. More than 130,000 hunters spend 10 days each per season, for a total of 1,300,000 days, hunting deer. They harvest about 40,000 animals during the annual hunting season, and spend over $13,000,000 doing it. Florida deer are very valuable game animals, both economically and aesthetically. ●

The Eyes Have It



By EDMUND McLAURIN

Reprinted—By Request—From
August 1958 Issue

AMONG SHOTGUNNERS, riflemen, pistol shooters and bowhunters, ownership of the best quality equipment, aside from being desirable, is invariably of great personal importance. Undoubtedly, use of topnotch equipment does help to tip the balance scales favorably when all other factors are nearly equal. For this reason, the average sportsman usually takes good care of his shooting equipment.

But the most important item, one already possessed—his vision—is frequently neglected.

Do you really need glasses? Only an examination by a conscientious ophthalmologist can accurately answer that; he alone can determine how well you actually see.

But the probability of need of glasses is influenced by both your age and condition of health. According to the Better Vision Institute, a nonprofit organization that makes a continuous study of human eyesight, modern civilization—especially indoor living and close work under artificial light—takes a heavy toll of normal human eyesight. Statistics show that with persons 15 years of age or less—23% need glasses; 30 years of age or less—48% need glasses; 50 years of age—71% need glasses; 60 years of age—82% need glasses; over 60 years of age—95% need glasses.

Fortunate indeed are those FLORIDA WILDLIFE readers not included in the stated percentages.

To the layman, 20/20 vision is considered perfect. Actually, the score means only that a person of that classification can read letters 3/8-of-an-inch high at 20 feet. He can still be lacking in one or more factors that go to make up good vision.

What are some of the common vision troubles of sportsmen, particularly shooters?

Myopia, or Nearsightedness: This defect usually exists where a shooter sees his sights clearly but finds distant targets blurred. Afield, without corrective prescription glasses, the nearsighted person may easily mistake movement of other hunters for game and consequently be potentially dangerous to all persons within range of his weapon.

The trouble in not seeing distant objects clearly is based on the fact that the natural shape of the eye's lens is too long, with the result that received light incorrectly focuses in front of the retina and creates a blurred picture. Doctors say the condition is often an aftermath of a case of measles or similar illness during childhood. It is corrected by the fitting of a concave, or minus, prescription lens placed in front of the eye to cause distant light rays to focus properly on the eye's retina.

The writer belongs to this group. He can read FLORIDA WILDLIFE as close as only 4 inches from his eyes, but cannot easily read a calendar hanging on a wall across the room, or clearly define distant targets, without glasses. However, with glasses he sees well enough to shoot quite well at all average target and hunting ranges.

Hyperopia, or Farsightedness: The farsighted shooter usually has trouble seeing his gun's sights, while distant targets are generally seen in sharp definition.

Here, the shape of the eye's lens is too short, with the result that parallel light rays reaching the eye's relaxed lens focus behind the retina instead of on it. Correction calls for a convex, or plus, eyeglass lens of required strength.

Farsightedness is approximately six times more common than nearsightedness, optometrists say.

Astigmatism: In this visual defect, the eye cannot sharply focus all horizontal and vertical lines, due to an error in the shape of the cornea or front surface of the eye, not the lens. Optometrists state that astigmatism has nothing to do with farsightedness or nearsightedness. The condition is correctable, but only by the wearing of proper prescription glasses.

If an examination by an oculist shows that you suffer from astigmatism, and you are a shooter, ask to be given optical correction for as little as ¼-diopter of astigmatic error.

Presbyopia, or "Old-man Eyes": In young eyes, controlling muscles—unless affected by disease—have remarkable and rapid flexibility, enabling eyes to quickly change focus from near to far, or vice versa, with split-second timing and with good definition.

But as the years pass, eye muscles lose their elasticity or accommodation; hence the technical term "presbyopia"—from the Greek word "presbys," meaning old man, combined with "opia," or vision.

Presbyopia is probably present if you cannot read small print closer than approximately 9 inches from your eyes. It means that eye muscles are stiffening and that the eye lens is flattening. As the conditions worsen, you gradually have to hold print farther from your eyes in order to see it clearly and comfortably.

As Dr. William H. Wood, Florida optometrist, pointed out, there is nothing that can be done for a shooter about this condition with glasses, aside from supplying the hunter with the best possible distance vision prescription, and recommending that he use firearms equipped only with rear peep sight or scope.

Shooters afflicted with presbyopia should have their eyes checked at least every two years.

Peripheral Vision, or Field of View: It is usually your side vision that first picks up movement of game. Wide fields of horizontal and vertical vision enable you to detect and keep in view fast-moving game that might otherwise escape your sight.

Many shooters have what is jokingly referred to as "tunnel" vision—that is, ability to see only a small, central field without shifting the head. Such persons usually fail to see other hunters who may walk into the line of fire, and represent unsafe hunters, no matter how conscientious they may be.

Various factors temporarily or permanently affect side vision. Certain modern drugs, aftereffects of disease, alcohol, tobacco and fatigue can narrow the effective band of one's vision.

How good is your peripheral vision? You can easily find out:

Select and fix your gaze on some object straight in front of you and at normal eye level. Next, hold a pencil in your right hand and extend it straight out to your right, at shoulder height. Without shifting your front-focused gaze, can you see the pencil? You probably cannot at such a sharp angle. . . . Keep moving the extended arm and pencil forward little by little until you see the pencil, while still gazing straight ahead. Note the approximate angle at which the pencil first comes within range of your vision. Repeat this test on your left side and note your field of vision on that side.

Ophthalmologists say that you should be able to see the pencil at least 75 degrees on each side of

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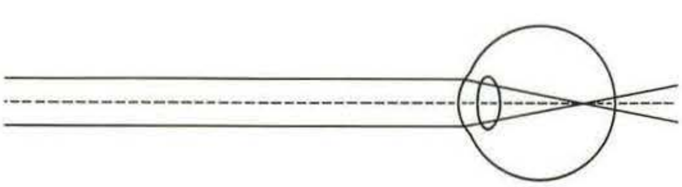
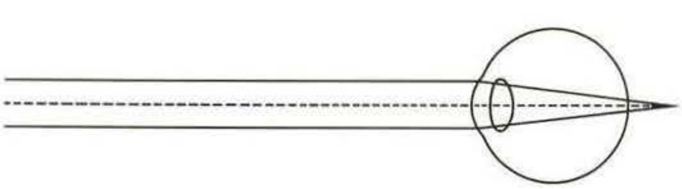
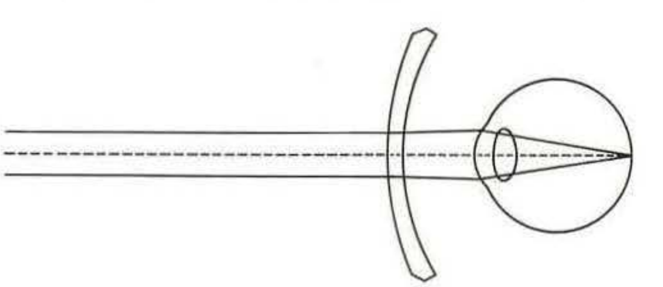


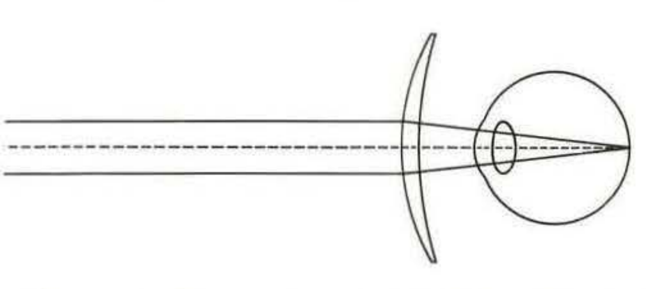
Nearsighted persons see closeup objects clearly, but distant targets are blurred because images focus in front of retina.



Farsightedness is six times more common than nearsightedness. Here the image falls into sharp focus in back of the retina.



Myopia is corrected by fitting a concave prescription lens to begin bending light rays before they enter the eye's lens.



Hyperopia calls for a convex prescription lens, designed to allow the image to focus on the retina for improved vision.

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your center line of sight, without moving your head.

To test the visual range of your up-and-down vision, hold the pencil directly overhead, while again fixing your vision on some distant, eye level object. Keeping eyes focused forward, slowly lower the pencil in a downward arc until it appears in your view from above. Make the same test up from below your waist. Your range of vision should be 50 degrees above and below eye level center focus point if you have normal vision.

Judgment of Depth or Distance: Depth perception is particularly important to the shotgunner and the bowhunter in estimating distances and lead required for hitting moving game. Serious aiming errors can occur where faulty depth perception exists.

How accurately can you judge depth or distance? Outdoors, estimate the distance between yourself and a distant object, then pace off the distance for a check on the accuracy of your guess. Make similar tests at different places and record or memorize the results to evaluate the accuracy of your judgments.

Indoors, stand two empty .30-06 or similar caliber cartridge cases upright, an inch apart on a table bathed in shadowless light. Place a book or a strip of wood flat in front of them so that you cannot see where the bases of the empty cartridge cases touch the table. Move back approximately 20 feet and get your eyes level with the neck ends of the upright cartridge cases.

While you close your eyes momentarily, have someone move one or the other of the cartridge cases a half an inch closer or away from you. When your assistant says "Ready," open your eyes and say which cartridge case appears closer to you and approximately how much distance separates the two. Average eyes should detect half-inch movements accurately eight out of 10 tries. Good two-eyed vision will discern one cartridge case set only ¼-of-an-inch ahead of the other.

Color Perception: One of every twelve hunters is lacking in some phase of normal color discrimination, optometrists say.

Despite the fact that most hunters put their faith in red as a personal safety color, tests show that red is one of the most difficult colors to see in the woods of autumn, by both colorblind persons and those with normal vision. The colorblind persons see red as a shade of gray; to normal eyes shades of red can frequently look like browns, or black, especially in the dim light of early morning or late afternoons.

On the other hand, blaze, or hunter, orange is the color most easily and quickly seen by all persons.

Wear a hunter orange cap, shirt or paneled hunting coat this season and enhance your safety factor afield; hunters will see you better, but game will not, eyesight research technicians declare.

Visual Acuity: Just seeing objects in a generally identifying way is not enough. The slightest blurring markedly reduces efficiency; you must not only see an object well enough to identify it, but you must also see it distinctly and quickly and be able to recognize it against a variety of backgrounds.

Florida salt water fishing guides—men whose incomes depend on their ability to locate fish and place anglers at the best spots for probable catches—usually are persons with good eyesight, not always because of 20/20 vision but because of having developed a keen sense of perception. They know what to look for against familiar backgrounds.

Knowing what to look for and being able to quickly recognize it when seen is why some hunters fill their game bags year after year while others hunting the same area do not.

There is also a marked difference in the hunting safety record of the two groups. Hunters deficient in visual acuity, accurate color recognition, and depth perception account for twice as many hunting accidents as persons with normal or prescription-corrected vision, safety records show.

Also accident prone are the inexperienced hunters who lack the ability to distinguish the game hunted against a variety of natural backgrounds. As Dr. R. M. Shackleford, Jr., of the American Optometric Association has stated, "The danger of an inexperienced man with a gun stems not from the fact that he cannot see or isn't as smart as you, but because his mind is not conditioned to interpret what he does see."

Deer hunters, particularly, would benefit from gunless observation trips between seasons to areas where fall hunting is planned. Getting to know the terrain and game to be hunted, as seen from different points of the compass and at different periods of the day, helps to develop visual ability to later make accurate, safely-fired shots under all sorts of light conditions.

"Master" Eye Domination: Because our eyes are located some distance apart, each eye sees closeup objects slightly differently. Nature has taken care of this situation by giving one eye mastery over the other when objects close at hand are viewed. It is what the "master" eye sees that the brain accepts and utilizes to a great extent.

When two eyes vary in strength, the stronger will be found to be the "master"; when the two are the same strength, there may be some question. Knowing which eye is the "master" eye is of cardinal importance to gunners and bowmen, for it is with the "master" eye that the most accurate shooting can be done. (See FLORIDA WILDLIFE, September 1972, page 29, for tests to determine "master" eye.)

Two-eyed Vision: Although it is his "master" eye that serves a shooter best, two-eyed vision helps greatly in seeing depth properly. The statement, "Two eyes are better than one" is an obvious truth, and good shooting technique is to keep both eyes open when taking aim.

Good binoculars are a great optical aid to hunters, whether they wear eyeglasses or not. The greater the magnification, the more "shaky" the image may be. For maximum steadiness, support the binoculars in the manner shown, above. For the rifleman, prescription shooting glasses and good low-power telescopic sight will be an unbeatable combination, below.

But it often takes time and perseverance to learn to shoot with both eyes open. Meanwhile, scores may suffer.

In learning to shoot with both eyes open, expert Rudy Etchen recommended that the shotgunner temporarily bypass skeet in favor of trapshooting. He said, "Do it this way: First, close one eye when you have the gun up to your shoulder and line up the sights as they should be, the center bead sight just under the front sight. Then when you call for your trap target to be released, open the non-aiming eye and shoot the target with both eyes open. By using this method, you have properly aligned your sights before opening both eyes and will be looking straight down the barrel. After some practice you'll be able to keep both eyes open from start to finish. Skeet and field shooting will come easier to you after so practicing trapshooting.

Rifle and Pistol Target Shooting: For competitive target shooting, using metallic sights, it is rarely possible to obtain prescription glasses that will give sharp definition of both front sight and distant target. Where a choice must be made, best results will stem from seeing the front sight sharp and clear at the expense of a slightly blurred target. The theory—proved correct by tests—is that one can align a sharply defined blade front sight more accurately on a slightly fuzzy target than vice versa.

The aiming bull may appear somewhat gray and fuzzy, but so long as the front sight looks distinct and black, high scores can be made by aligning the blade front sight right on the center of the bullseye, where generally the slightly blurred target will appear blackest to the shooter's aiming eye. Where no color contrast exists between aiming bull and front sight, the customary six o'clock position hold is perhaps better.

Such target shooters should not hunt with glasses that give only sharp definition of rifle sights; otherwise, they might easily mistake the blurred movements of another hunter for those of game.

They can, however, use a scope sight advantageously. A scope sight gives a decidedly better view of game, at all average shooting distances, and can be aligned more precisely than metallic sights. Also, when properly focused, a scope sight can be made to compensate for minor vision errors, should the shooter not already possess needed prescription glasses.

Talk over your vision problems with your eye doctor. Tell him you want the best possible vision for shooting—preferably corrected curve lenses that give a prescription, or useful area, strength the same at edges as in the middle. Take along your gun or hunting bow and demonstrate how you hold and aim it, that the doctor may better understand your optical needs. ●

Florida Div. of Forestry Photo

Photo By Lovett Williams

Woodlands—Large and Small

MANY INDIVIDUALS FEAR that forest land is shrinking in Florida, a matter not only for concern by commercial timber growers but of concern, principally, to those who see our woodlands as the last barrier between man and environmental mediocrity.

During the past 10 years, commercial forest land has decreased by about 5%. This decrease can be accounted for as acreage going into intensive agriculture, urban development, industrial expansion, highway rights-of-way, and similar uses.

The most dramatic shift in land use has occurred in south Florida. Authoritative data compiled by the United States Forest Service strongly suggests that commercial timberland in south Florida may soon be a relic of the past. From Lake Okeechobee south, 22% of the commercial forest land has evaporated into other utilizations in the past 10 years.

Predictably, central Florida also has seen a major loss in commercial forest acreage, with a decrease of 16%. In contrast, northeast Florida saw a drop of only 3%, and there was no significant change in commercial forest acreage in northwest Florida over the last 10 years.

Ownership of the commercial forest lands in the state can be categorized in the following manner:

Forest Industry	5.2 million acres	32%
Public	2.1 million acres	13%
Farmer & Private	8.9 million acres	55%

At the present time, the commercial forest acreage is split almost exactly, with about half predominantly pine, the other 50% predominantly hardwood.

Many individuals worry that a "pine forest monoculture" is being developed in Florida, but U.S. Forest Service survey figures refute that contention.

In 1935, Florida had 21.9 million acres of commercial forest land. Of this total, 17.1 million acres were pine forest rapidly being depleted, and some 4.8 million acres were hardwood forest. This represents a ratio of 22% hardwood to 78% pine. During the past 35 years, then, a shift has taken place to an almost exact 50-50 distribution.

Currently, timber growth exceeds timber drain (cut) by about 50%. This would indicate that even without improved forest management, additional industry can be supported. An interesting sidelight:

Timber harvesting and improved forest fire control tend to *increase* the amount of hardwoods and decrease pine species.

This takes place because ecological progression in Florida is from coniferous (pine) to deciduous (hardwood) species. Harvest of the pine species causes an explosive encroachment by the hardwood species present, and they take over for the simple reason that in natural regeneration, hardwoods have the biological upper hand.

Florida's forests provide more than 5,000 products and by-products and support a $1.5 billion dollar industry. This economic value is important, of course, but the human values also have to rank as priceless benefits received from the forest. The forest resources can and must extend into the urban and suburban areas, for the environmental benefits are vitally important.

What are some of the many ways in which trees can substantially improve an urban or suburban environment? Think of:

—Trees as oxygen producers for urban areas. Through a marvelous process, trees take on carbon dioxide and return pure oxygen to the atmosphere.

—Trees as dividers for urban communities. A screen of green and growing trees can shield unsightly urban areas, or separate residential areas from other urban land uses.

—Trees as blotters for urban floods. Stands of trees can help to control floods, with the forest floor acting as a giant sponge, soaking up rainfall.

—Trees as windbreaks against storms. Rows of trees can protect urban areas from the full force of damaging wind and water.

—Trees as coolants for urban temperatures. One tree can produce the cooling effect of several average room air conditioners. Trees also provide shade and absorb and reflect solar radiation.

—Trees as tranquilizers for urban nerves. A pleasant stroll through a lovely wooded area can provide a soothing retreat from the crush and press of the workaday world.

Trees also provide a wildlife habitat for urban enjoyment. A forest stand is the natural home of deer, squirrels, birds, and other woodland dwellers. For many people, trees symbolize havens and food for wildlife.

Trees are sponges for urban noises. Rows of trees, placed to good advantage, can effectively reduce high noise levels. A good example would be trees planted around airports for noise abatement.

Trees are filters for urban smog. Serving as "nature's air conditioners," trees absorb airborne pollutants such as smoke, odors, and dust.

Florida is faced with two key problem areas in relation to the forest resources—economic and environmental.

Farmer and private ownership of 55% of the total commercial forest area means this important source of timber must be nurtured and sustained. Forestry programs and policies need to be developed to stimulate interest in timber growing, so as to maintain an economic environment which will make forestry endeavors profitable to landowners.

Key needs are adequate capital, better and more diversified markets, and a tax climate that will provide incentive to invest in a long-term forestry pro-

(Continued on next page)

By **JOHN M. BETHEA**, Director
Florida Division of Forestry

Florida Div. of Forestry Photo

A big forest bonus is wildlife like this turkey, above, as well as many nongame species. Pine plantings, far left, are a strictly commercial crop, but half of the state's commercial woodlands are in hardwoods which feed and shelter animals. One new tree being grown by the Forestry Division nurseryman, right, is the India rosewood, valued for its beauty and wood.

(Continued from preceding page)

gram, many benefits of which do not accrue to the landowner. *More than half of Florida's timber requirements will have to come from this ownership group in the future.*

An environmental forestry program must be developed that recognizes and does something about the urban need for recreation in "the great outdoors." The modifying benefits of forest cover in the southern part of the state, in particular, must be promoted to help counteract the dismal aspects of "urban sprawl."

Key needs in this area are identification and selection of environmentally fragile forested areas that should be preserved, such as glades, river bottoms, and hammocks; and selection and development of natural areas in cities before they are swallowed up. An opportunity exists here to develop "vest-pocket" natural areas through planting appropriate trees, taking advantage of unusual vegetative types, and establishing linear natural trails along stream margins.

The serious problem of urban development and the associated destruction of native vegetation demands attention.

The Division of Forestry has initiated a contact program with developers prior to construction, with a short course designed to stimulate interest in tree conservation and natural landscaping.

Division nurseries are working toward the production of a proper balance of tree species for distribution to landowners. This past planting season, Division nurseries produced 17 different species of trees for "bare root planting." In addition, more than fifteen other species were made available as potted stock.

Environmental education efforts must be accelerated to provide people in urban areas with an opportunity to learn about, and develop an appreciation for, their natural environment.

The Division's first environmental education facility, the S. Bryan Jennings Environmental Education Center, is now open and functioning at Cary State Forest, near Jacksonville, and work is now underway on another center at Blackwater River State Forest, near Milton.

The forest resource must be an integral part of any planning process in order to answer effectively the needs of people for forest products, in addition to maximizing the multiple environmental benefits.

The following illustration will serve to dramatize the point: Professional foresters consider a 45% tree canopy or cover as necessary in an urban area in order to enhance the livability of the city.

For example, Berlin, Germany has a tree canopy of 60%. This compares with these Florida cities: St. Petersburg—19%, Fort Myers—17%, Lehigh Acres—16%, and Cape Coral—1%.

A concerted effort must be made to produce a climate of constructive content to slow down and perhaps even reverse, the environmental erosion that is taking place so rapidly in south Florida.

Life is stressful when you take from it the tremendous buffer of nature. Countries with high crime rates, low living standards, instability, and national discord are seldom those that are heavily forested and continually reforested.

Trees do more than furnish wood. In the city, they atone for man's planned, programmed and sometimes tasteless existence. Wherever they grow effectively, trees contribute to man's good. ●

A major concern of Florida foresters is the critical scarcity of trees in the southern part of the state. Rampant development has denuded the land creating an environmental crisis. Tampa Bay area will have no wooded spots by the year 2030 if building goes on.

Florida Div. of Forestry Photo

Handgun Handling

it takes patience and practice to handle a handgun while hunting—taking time with targets today will generally guarantee getting game

By EDMUND McLAURIN

IF YOU ARE HUNTING with a handgun this season, I hope you started getting ready early with plenty of preseason practice. You've chosen a tough row to hoe!

There is no crash course to expert handgunnery. It takes time and much practice to control the handgun so that movement while aiming is minimal.

No one can hold a handgun *perfectly* still. The truly expert handgun shots are satisfied when gun movement is kept within an imaginary rectangle that gives consistent bullseye hits. The trigger-finger must be educated to apply firing pressure gradually, and to withhold it during critical moments when the sights drift slightly off the aiming point.

When the shot occurs, the shooter should look through his handgun's recoil and make mental evaluation of the probable bullet impact point in relation to the sight alignment on his target at the instant of firing. This follow-through sequence is known as "calling the shot." Expert riflemen and shotgunners do it too.

If your choice of sights is a combination of metallics, fit your handgun with the best. Bo-Mar, Micro and Elliason rear and front sight combinations are recommended. They can be had to fit most hunting and target handguns.

Substitution of a scope sight for factory metallics will definitely be an aiming aid, should you prefer a scope. It will make targets appear closer and more detailed, and give the aiming eye an easier sighting plane. But a scope sight will not prove a shortcut to expertness.

Fit your handgun with a trigger shoe. This practical accessory will add width to the trigger and provide more contact surface for the finger, making trigger pull seem lighter. Williams Gun Sight Company, Davison, Michigan 48423, makes very neat trigger shoes to fit most handgun models. Installation can be made in minutes, utilizing two tiny Allen screws. A hex wrench is furnished.

"Dry firing" (simulation of actual shooting with an *empty* gun) is most beneficial since there is no recoil to conceal aiming error and the effect of sloppy trigger pull.

For dry fire practice at home, try pasting an aiming bullseye in the center of a wall clock that has a sweep second hand. The bullseye should be seen as the exact width of your front sight at the distance from which you take aim. That way, any front sight drift is instantly detectable, as well as the effect of final stage trigger pull on your aim. The clock's sweep second hand will tell you the average time you require to get off well-aimed shots.

This should not be done with the idea of achieving fast aim and trigger release. That skill will come with practice, as eye and gun hand learn to work smoothly together.

If your choice of sights is a low power scope, put up a target in the yard. (If it can be seen from a window, you can do your "dry firing" from inside the house.) Your practice objectives are the same as if using metallic sights—controlled hold, aim, and trigger squeeze.

In actual firing practice on an outdoor shooting range, I recommend that a beginner forget about orthodox paper targets and first practice shooting at a vertical line that appears the width of the handgun's front sight at shooting range. This is especially helpful if metallic sights are used.

Make the target by nailing a narrow, white-painted strip of wood lengthwise of a black-painted 2 x 4 post set in the ground. Move back from the target until the firing point is found that makes the handgun's front sight appear the same width as the white vertical stripe on the target post.

When hits can be confined to the narrow white aiming strip, the ambitious handgunner is on the way to becoming a good pistol shot. Thereafter, he need only combine achieved horizontal gun movement control and smooth trigger squeeze with needed sight elevations for the different handgun ranges. For hunting, he can work out a compromise sight setting good for all practical hunting ranges without having to make field changes in rear sight elevation.

When hunting with a handgun, take advantage of any available rest, and shoot with the free hand grasping and supporting the wrist of the gun-holding hand. Or sit down and brace your elbows against the inside of the knees for steadiness as you shoot two-handed.

Limit field shot attempts to ranges within about 75 yards maximum, then learn to fairly accurately estimate distances between muzzle and the 75-yard

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extreme. Like expert shooting, accurate range estimation is largely a matter of practice.

Another secret of scoring hits on game targets is to select and stick with one bullet weight and type, then learn how much a fired bullet drops as it passes certain points in its trajectory.

For example, you should know the rise or drop in bullet flight over the first 25 yards, the number of inches of bullet drop at 50 yards, and the increasing drop that occurs at 60- and 75-yard ranges when sighted-in for, say, a 40-yard point-of-aim "zero."

MANY YESTERYEAR GUNSTOCKS—even some on inexpensive gun models—were made from high grade walnut. Often the then-plentiful hardwood was selected for beauty as well as soundness.

If you possess a gun with such a stock, consider yourself lucky, whether it still looks new or is badly marred. The marring can be remedied.

There is an increasing scarcity of good grade American walnut suitable for gunstock making. Also, imports from France, W. Germany, and other countries have diminished substantially, due largely to the ravages of war and increased world population demands for walnut furniture and other hardwood products.

Of necessity rather than choice, American manufacturers of sporting firearms are now using stocks made from woods other than walnut and staining them to resemble walnut, or simply leaving them their natural color. Sycamore, elm, maple, ash, and redwood are among favored substitutes.

Elm, for example, is known to stand up well under the hard firing recoil imparted by some of our modern magnum calibers. High-grade sycamore has the same ruggedness and contains figuration pleasing to the eye.

A gunstock made of shell flame maple—when given correct final finishing—seems to possess shimmering life. Some of the best maple for gunstocks comes from the Pacific Northwest, where cold winds torture and toughen growing trees.

The world's military armorers, who have long favored walnut for shoulder weapon stocks, are now turning to birch, laminated woods, plastics, and metals as gunstock material for small arms.

But fortunately, modern resin sealers and epoxy repair materials permit salvage of low grade walnut and higher grade blanks with minor defects that formerly would have been rejected for stockmaking.

Remington finds it can utilize and beautify even low-grade walnut by impregnating the wood with DuPont RKW, the same plastic sealer used to give durability to bowling pins. Shooters are generally enthusiastic about the moisture-resistant qualities and proven field toughness of gunstocks on modern Remingtons.

The same manufacturer also uses a structural grade of commercial nylon, called "DuPont Zytel," for gunstocks. Stocks for its Nylon 66 model .22 caliber autoloading rifle and for the Remington XP-100 .221 "Fire Ball" caliber, bolt-action handgun are made from this product of modern chemistry.

Use of plastics for gunstocks isn't exactly a new thing. Gun catalogs of the late 1930's carried a description of the Stevens .22-.410 over-and-under combination rifle and shotgun, with a Tenite stock.

The plastic gunstocks then molded and used by Stevens were described as "looking like the very finest Circassian walnut, handsomely checkered."

I well recall the models. I found Tenite notably tough but quick to absorb heat and cold in the field. The use of Tenite as gunstock material among firearms manufacturers was not widespread. Those who used it were simply ahead of their time. Plastic stocks weren't readily accepted on the market then.

Today, things are different. Ours is a plastic age.

All-plastic gunstocks are now being custom produced in vivid colors on order by Brown Precision Company, San Jose, California 95123.

First offerings have found ready acceptance by bench rest shooters, whose specialized sport demands use of gunstocks unaffected by moisture and temperature changes if they are to achieve shot groups that challenge established accuracy records. The bench rest shooters have found that the all-plastic stocks are extremely stable, yet lighter than wood. The latter quality permits more weight to be incorporated into barrels and attached accessories, under applicable rules.

For the hunter who owns a Remington Model 700 bolt-action big game rifle with variable power scope and finds the combination heavy to carry, Brown Precision makes an all-fiber glass stock that reduces total gun weight by a full pound.

I'm afraid I'm a little old-fashioned. The idea of an all-plastic stock in a vivid color will require a little getting used to before I get around to putting one on my favorite hunting rifle. Somehow, the bright hues of royal purple, tangerine, green, and gold currently used are hard to accept over attractively grained wood. Personally, if forced to choose from among gunstock innovations, I would much rather have a laminated wood gunstock over a plastic of any color.

Laminated gunstock blanks are made by epoxying together, under pressure, wood layers about 1/16 of an inch thick—usually walnut and maple, cherry and maple, or two-tone walnut—with each wood layer set with the grain 90 degrees to the one next to it. When machined to gunstock shape and dimensions, both visually striking appearance and structural practicability are achieved.

The stocks are virtually waterproof, and truly warpproof, by reason of their construction. In a torture test, a Reinhart Fajen-made laminated wood stock was soaked in water for two days; then it was frozen for two days; next, banged with a hammer—without even a dent showing—then finally placed in a 500 degree oven and thawed. The stock reportedly did not show ill effect.

Generally, rifles of bolt-action type with one-piece stocks will outshoot slide- and lever-actions with two-piece stocks. Even so, one-piece stocks must have straight grain, especially at the grip, for greatest strength and unaffected stability.

Burls and fancy grain in a walnut gunstock add beauty and eye appeal, but such novel wood pieces should be used only in the butt area of a one-piece stock. Crooked wood grain pattern invariably embodies sensitivity to pressure, making a stock easy to break (especially in the thin grip area) and likely to whip under absorbed firing recoil.

Even the heaviest and best made solid wood gunstocks can possibly warp from absorbed dampness or firing recoil—even when glass-bedded at critical contact points of wood and metal. Walnut, for example, is a hard, dense wood, yet is vulnerable to water absorption and warpage.

Fortunately, there are now a number of modern commercial sealants that can be used to waterproof gunstocks of walnut and other solid woods. These sealants penetrate deeply into the wood and seal the cells against moisture. Poly-Ep, Fullerplast, and Poly-Form are three brand name products that have proven themselves.

For a good job, the barrel channel and other inner surfaces must be treated, as well as the exterior surfaces of the stock.

Modern epoxy resin adhesives make possible neat, durable gunstock repairs formerly beyond the ability of the average home gunsmith. Even stocks completely broken across pistol grip or split lengthwise can be restored to usefulness, frequently without the repair being conspicuous.

A particularly efficient adhesive is the epoxy compound marketed by Chem-L-Co Industries, P.O. Box 24, Wyoming, Pennsylvania 18644. In a strength-of-joint test, a repaired gunstock broke in a fresh place (from deliberate, hard dropping), but the cemented parts held!

Any kind of stock repair or overhaul job should begin, of course, with the removal of the old finish, and cleaning of checkered areas with an old toothbrush and turpentine.

Most stock dents can be raised to former level by steaming. Place wet wads of Kleenex or toilet tissue on the dents and touch briefly with the tip of soldering gun or hot iron. Repeat until the dent is raised to normal level.

Bad gouges can be filled with matching wood epoxy.

The degree of restoration that can be given an old gunstock will surprise you. In many cases, breaks and bad places can be repaired to such perfection that even an expert cannot readily find them. ●

Question Box

Question: Some say that kids under 15 and anybody over 65 years old don't have to buy a management area stamp before hunting in a state wildlife management area; that these are exempt from stamp purchase just as they're exempt from buying regular hunting licenses. Is this true?

Answer: Only partly. Children under 15 years of age need a wildlife management area permit costing $2.50 to hunt on management areas; everybody else, *except residents of Florida who are 65 and over,* needs to buy a $10 wildlife management area permit to go with his regular hunting license—before hunting on a management area. So it is true that all kids under 15 are exempt from a license purchase, but only residents 65 and over are exempt from the area permit, which, incidentally, is in the form of a stamp and sold primarily by county judges or their authorized subagents.

Question: A person in another state wants to stock his private lake with Florida largemouth bass because he has read they grow faster than Northern largemouths. Where and how can he get some?

Answer: Commission policy on this matter is as follows: All requests for fingerlings must be approved in writing by the responsible game and fish agency in the state where the fish are to be stocked. The Florida Game and Fresh Water Fish Commission will make every effort to furnish disease-free fingerlings or adult bass to the state agencies for research purposes.

Individuals or clubs requesting fingerlings or information about private sources of fingerlings must submit written approval from their responsible state agency before any action will be initiated. When the written approval has been received by the Florida Game and Fresh Water Fish Commission, a list of private fish dealers will be furnished the requesting party and the dealers will be advised that this party has permission from his state to purchase Florida largemouth bass fingerlings.

Question: What are those parasites sometimes found attached to the scales of fresh water fish?

Answer: Fish lice (*Argulus*) and *Lernea,* anchor worms. Both come off when the fish is scaled. The flesh is perfectly edible.

Question: What are the basic qualifications for getting a job as a wildlife officer?

Answer: Four basic requirements must be met before a candidate is permitted to take the written

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examination administered by the Division of Personnel and Retirement. He must (1) be between the ages of 21 and 35 years of age; (2) have a high school education or equivalent (some college preferred); (3) be able to pass a rigid physical examination; and (4) not have been convicted of any felony offense. Young men seriously interested in a career as a wildlife officer, and who meet the basic requirements, may write for an application form and more information to:

Department of Administration
Division of Personnel and Retirement
Doyle Carlton Building
Tallahassee, Florida 32304

Question: What the heck is a fulvous tree duck? I see it's assigned a value of 100 points on the migratory waterfowl regulations this season.

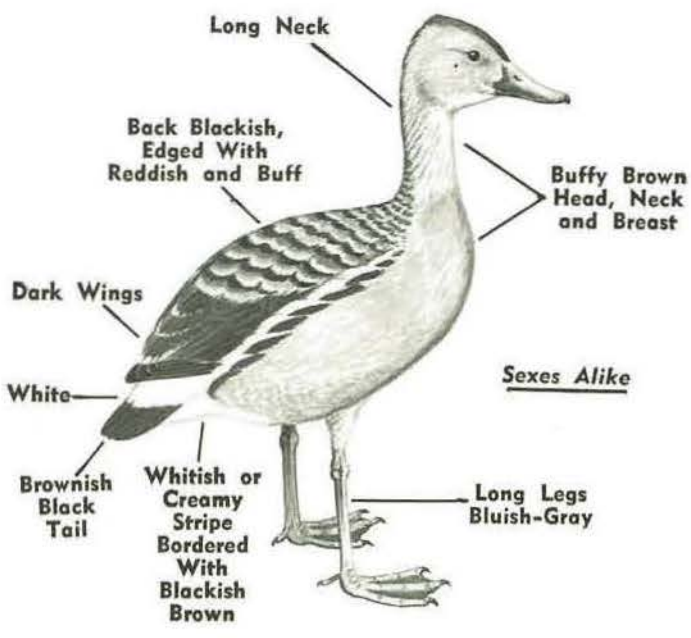
Answer: This is a duck native to Mexico and found over much of the southwestern U.S. and along the Gulf Coast into Florida. It nests in the Lake Okeechobee area and only visits other parts of the state—but is not plentiful anywhere. That's why it is a 100-point duck, which means the hunter can take just one if that's the first duck he shoots that day. Drawing of the fulvous tree duck appears on the front of the Commission's "Know Your Ducks" folder for 1972-73. Every duck hunter should have one of these. It'll help in identifying all the high-point ducks, including the fulvous. Any regional office can supply these and other hunting and fishing regulations publications.

Question: Under the waterfowl point system, what is the maximum number of ducks a hunter can take in one day?

Answer: The most he can take is 10; the least he can take is one, and it would be a fulvous tree duck. Determining the daily bag limit depends on the *order* in which ducks are taken, and the *point value* assigned to the species taken. The daily limit is reached when the point value of the *last* duck taken, when added to the sum of the point values of the other ducks already taken that day, *reaches or exceeds* 100 points. Therefore, one could shoot ten 10-point ducks in a day, for a total of 100 points; or he might choose a mallard hen for his first shot, worth 90 points, and round out his day's bag with *any* other legal duck on the marsh, but just one more—because whatever its assigned point value, that duck would cause him to *reach* or *exceed* 100 points. Canvasbacks, redheads, brant and geese are fully protected, so these must not be taken, of course.

Question: Is chumming permitted in Florida?

Answer: Yes, and it's a good way to improve the fishing at your favorite spot, especially for bream and yearling bass. Some people simply place the fish food in the water, whether in cake, pelletized, or meal form; others bag it in coarse burlap first. It attracts hungry fish either way. Even old bread tied up in a sack and sunk beneath the dock will chum 'em up.


Long Neck
Back Blackish, Edged With Reddish and Buff
Buffy Brown Head, Neck and Breast
Dark Wings
Sexes Alike
White
Brownish Black Tail
Whitish or Creamy Stripe Bordered With Blackish Brown
Long Legs Bluish-Gray

FULVOUS TREE DUCK—100 Points

Length Av. 19"
Weight Av. 1 lb. 6 oz.

Question: Why are buzzards protected in Florida?

Answer: First, because they're useful in their role as scavengers, and rarely destructive to domestic or other animals; secondly, because some young bald eagles, which are brown all over, have been mistaken for vultures and shot.

Question: A visitor from another country is in Florida and wants to go hunting. What license is required?

Answer: A hunting license is issued to aliens, in person or by mail, from the Tallahassee office of the Commission. It costs $50 and is valid for the season. Applicants must provide their name, age, physical description, country and address of residence, and a Florida address.

Question: Is there also a special fishing license for aliens?

Answer: No. To fish in Florida's fresh waters, an alien only needs a regular non-resident license, available from county judges and tax collectors and their subagents. (Costs: 5-day, $2.25; 14-day, $3.25; or annual, $8.00.)

Question: Which kinds are considered fresh water game fishes in Florida?

Answer: All basses, bream, perch, and pickerels.

For that BIG ONE that

didn't get away

ELIGIBILITY REQUIREMENTS
SPECIES

LARGEMOUTH BASS	8 pounds or larger
CHAIN PICKEREL	4 pounds or larger
BLUEGILL (BREAM)	1½ pounds or larger
SHELLCRACKER	2 pounds or larger
BLACK CRAPPIE	2 pounds or larger
RED BREAST	1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

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FISHING CITATION

is available without charge, to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the fresh-water game fish of the prescribed species and size requirements. Citation, showing recorded date of the catch, will be mailed to the applicant upon receipt of the following application form that has been properly filled out and signed.

Only fishing citation applications received within 90 days from date of catch will be honored.

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE Date____________
Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print)____________

Address ____________

City____________ State____________ Zip No.____________

Species____________ Weight____________ Length____________

Type of Tackle____________

Bait or Lure Used____________

Where Caught____________ in____________ County

Date Caught____________ Catch Witnessed By____________

Registered, Weighed By____________ At____________

Signature of Applicant____________

CUT OUT AND SAVE THIS APPLICATION BLANK

White Ibis

Photo By Lovett Williams

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Tallahassee, Florida 32304

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